

## WHAT IS CLAIMED IS:

1. An apparatus for preparing an eyeglass lens, comprising:

5           a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

          a second lens curing unit comprising a second activating light source and heating  
10       system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit; and

          a conveyor system configured to convey the mold assembly from the first lens  
15       curing unit into and through the second lens curing unit;

          wherein the apparatus is configured such that a substantially clear eyeglass lens is formed in a time period of less than 1 hour.

20       2.       The apparatus of claim 1, wherein the first activating light source is an ultraviolet light source.

          3.       The apparatus of claim 1, wherein the second activating light source is an  
25       ultraviolet light.

          4.       The apparatus of claim 1, wherein the first and second activating light sources are  
          ultraviolet lights.

          5.       The apparatus of claim 1, wherein the first and second activating light sources  
30       have substantially the same spectral output.

6. The apparatus of claim 1, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.
- 5 7. The apparatus of claim 1, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.
8. The apparatus of claim 1 wherein the first activating light source is configured to  
10 generate pulses of activating light.
9. The apparatus of claim 1 wherein the second activating light source is configured to generate pulses of activating light.
- 15 10. The apparatus of claim 1 wherein the first and second activating light sources are configured to generate pulses of activating light.
11. The apparatus of claim 1, further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of  
20 the activating light emanating from the first activating light source.
12. The apparatus of claim 1, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
- 25 13. The apparatus of claim 1, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light

source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

14. The apparatus of claim 11, wherein the filter comprises a plate defining an  
5 aperture, wherein the plate is formed from a material that is opaque to the activating light.

15. The apparatus of claim 12, wherein the filter comprises a plate defining an aperture, wherein the plate is formed from a material that is opaque to the activating light.

10 16. The apparatus of claim 13, wherein the first and second filters comprise plates defining apertures, wherein the plates are formed from a material that is opaque to the activating light.

17. The apparatus of claim 1, further comprising an air distributor positioned within  
15 the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.

18. The apparatus of claim 1, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is  
20 configured to heat the interior of the anneal unit.

19. The apparatus of claim 18, wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

20 20. The apparatus of claim 18, wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

21. The apparatus of claim 1, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.

5 22. The apparatus of claim 1, wherein the first activating light source comprises a first set of lamps and a second set of lamps, and further comprising a programmable controller configured to individually control the first and second sets of lamps.

23. The apparatus of claim 1, further comprising a programmable controller  
10 configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

24. The apparatus of claim 1, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher  
15 ballast system coupled to the fluorescent lamp.

25. The apparatus of claim 1, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

20

26. The apparatus of claim 1, wherein the first activating light source comprises a first fluorescent lamp, and wherein the first activating light source further comprises a first flasher ballast system coupled to the first fluorescent lamp, and wherein the second activating light source comprises a second fluorescent lamp, and wherein the second  
25 activating light source further comprises a second flasher ballast system coupled to the second fluorescent lamp.

27. The apparatus of claim 24, wherein the flasher ballast system comprises an instant start ballast and a transformer.



28. The apparatus of claim 25, wherein the flasher ballast system comprises an instant start ballast and a transformer.
- 5 29. The apparatus of claim 26, wherein the first flasher ballast system comprises an instant start ballast and a transformer, and wherein the second flasher ballast system comprises an instant start ballast and a transformer.
30. The apparatus of claim 1, wherein the first activating light source comprises two  
10 or more lamps, and wherein the lamps are independently operable.
31. The apparatus of claim 1, wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the  
15 mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.
32. The apparatus of claim 1, wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from  
20 the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.
33. The apparatus of claim 1, wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is  
25 coupled to a motor configured to move the flexible member through the conveyor system.
34. An apparatus for preparing an eyeglass lens, comprising:

a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

5 a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

10 an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit; and

15 a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit;

wherein the apparatus is configured such that a substantially clear eyeglass lens is formed in a time period of less than 1 hour.

20 35. An apparatus for dispensing a heated polymerizable lens forming composition comprising:

25 a body, the body being configured to hold the lens forming composition, the body comprising an opening for receiving a fluid container and an outlet;

a heating system positioned within the body for heating the lens forming composition;

a valve positioned proximate the outlet, wherein the valve comprises an elongated member, wherein the elongated member is positionable within the outlet in a closed position, wherein the elongated member in the closed position inhibits flow of the lens forming composition through the outlet, and wherein the elongated member is positionable within the outlet in an open position, wherein the elongated member in an open position allows flow of the lens forming composition flows through the outlet during use.

36. The apparatus of claim 35, wherein the valve comprises a movable member coupled to the elongated member, wherein the elongated member contacts the movable member at a first position such that the elongated member is in the closed position, and wherein the elongated member contacts the movable member at a second position such that the elongated member is in the open position, and wherein the movable member is movable such that the position elongated member can be varied from the first position to the second position.

37. The apparatus of claim 35, wherein the body further comprises a chamber positioned within the body, and wherein the heating system is positioned within the chamber, and wherein the chamber inhibits the lens forming composition from contacting the heating system.

38. The apparatus of claim 35, wherein the heating system comprises a resistive heating system.

39. The apparatus of claim 35, wherein the elongated member extends substantially completely through the outlet when the elongated member is in the closed position.

40. The apparatus of claim 35, wherein the elongated member extends partially into the outlet when the elongated member is an open position.

41. The apparatus of claim 35, further comprising a thermostat coupled to the body,  
5 the thermostat being configured to measure a temperature of the lens forming composition within the body, and wherein the thermostat is further configured to control the heating system in response to the measured temperature.

42. The apparatus of claim 35, further comprising a thermocouple coupled to the  
10 body, the thermocouple being configured to measure a temperature of the lens forming composition and a controller coupled to the thermocouple and the heating system, the controller configured to control the heating system in response to the temperature measured by the thermocouple.

43. The apparatus of claim 35 further comprising a fluid level monitor disposed  
15 within the body, wherein the fluid level monitor is configured to measure the level of the lens forming composition disposed within the body.

44. The apparatus of claim 35 further comprising a fluid level monitor disposed  
20 within the body and a controller coupled to the fluid level monitor and the heating system, wherein the fluid level monitor is configured to measure the level of the lens forming composition disposed within the body, and wherein the controller configured to control the heating system in response to the level of fluid measured by the fluid level monitor.

25 45. The apparatus of claim 35, wherein the apparatus is electrically coupleable to a controller of a lens forming apparatus.

46. The apparatus of claim 35, further comprising a mold assembly holder coupled to the body, wherein the mold assembly holder is configured to hold a mold assembly in a position such that the outlet of the body is positioned proximate an inlet of the mold assembly.

5

47. A system for dispensing a heated polymerizable lens forming composition comprising:

a heating apparatus, the heating apparatus comprising:

10

a heating apparatus body, the heating apparatus body being configured to hold the lens forming composition, the heating apparatus body comprising an opening for receiving a fluid container and an outlet;

15

a heating system positioned within the heating apparatus body for heating the lens forming composition; and

20

a valve positioned proximate the outlet, wherein the valve comprises an elongated member, wherein the elongated member is positionable within the outlet in a closed position, wherein the elongated member in the closed position inhibits flow of the lens forming composition through the outlet, and wherein the elongated member is positionable within the outlet in an open position, wherein the elongated member in an open position allows flow of the lens forming composition flows through the outlet during use; and

25

a fluid container configured to hold a lens forming composition, the fluid container comprising:

a fluid container body and a cap, wherein the cap comprises a fluid control member and an elastic member, wherein the elastic member is coupled to the fluid control member such that the elastic member exerts a force on the fluid control member such that the fluid control member is forced against a top inner surface of the cap;

wherein the fluid container is insertable into the opening of the heating apparatus, and wherein insertion of the fluid container into the opening causes the fluid control member to be moved to a position such that the lens forming composition flows from the fluid container into the heating apparatus body.

48. The system of claim 47, wherein the valve comprises a movable member coupled to the elongated member, wherein the elongated member contacts the movable member at a first position such that the elongated member is in the closed position, and wherein the elongated member contacts the movable member at a second position such that the elongated member is in the open position, and wherein the movable member is movable such that the position elongated member can be varied from the first position to the second position.

49. The system of claim 47, wherein the heating apparatus body further comprises a chamber positioned within the heating apparatus body, and wherein the heating system is positioned within the chamber, and wherein the chamber inhibits the lens forming composition from contacting the heating system.

50. The system of claim 47, wherein the heating system comprises a resistive heating system.

5 51. The system of claim 47, wherein the elongated member extends substantially completely through the outlet when the elongated member is in the closed position.

52. The system of claim 47, wherein the elongated member extends partially into the outlet when the elongated member is in an open position.

10

53. The system of claim 47, wherein the heating apparatus further comprises a thermostat coupled to the heating apparatus body, the thermostat being configured to measure a temperature of the lens forming composition within the heating apparatus body, and wherein the thermostat is further configured to control the heating system in  
15 response to the measured temperature.

54. The system of claim 47, wherein the heating apparatus further comprising a thermocouple coupled to the heating apparatus body, the thermocouple being configured to measure a temperature of the lens forming composition, and wherein the system further  
20 comprises a controller coupled to the thermocouple and the heating system, the controller configured to control the heating system in response to the temperature measured by the thermocouple.

55. The system of claim 47, wherein the heating apparatus further comprises a fluid  
25 level monitor disposed within the heating apparatus body, wherein the fluid level monitor is configured to measure the level of the lens forming composition disposed within the heating apparatus body.

56. The system of claim 47, wherein the heating apparatus further comprises a fluid level monitor disposed within the heating apparatus body and a controller coupled to the fluid level monitor and the heating system, wherein the fluid level monitor is configured to measure the level of the lens forming composition disposed within the heating apparatus body, and wherein the controller configured to control the heating system in response to the level of fluid measured by the fluid level monitor.

57. The system of claim 47, wherein the heating apparatus is electrically coupleable to a controller of a lens forming apparatus.

58. The system of claim 47, wherein the heating apparatus further comprises a mold assembly holder coupled to the heating apparatus body, wherein the mold assembly holder is configured to hold a mold assembly in a position such that the outlet of the heating apparatus body is positioned proximate an inlet of the mold assembly.

59. The system of claim 47, wherein the fluid control member is substantially spherical.

60. The system of claim 47, wherein the fluid control member is substantially spherical, and wherein the elastic member is a spring.

61. The system of claim 47, wherein the heating apparatus body further comprises a projection extending toward the opening, and wherein the projection is positioned such that the projection forces the fluid control member away from the top inner surface of the cap when the bottle is inserted into the opening.

62. The system of claim 47, wherein the cap of the fluid container is removable from the fluid container body.



63. The system of claim 47, wherein the cap of the fluid container is coupled to the fluid container body with an adhesive.

64. A method for making a plastic eyeglass lens, comprising

5

heating a lens forming composition in a heating apparatus comprising:

10

a body, the body being configured to hold the lens forming composition, the body comprising an opening for receiving a fluid container and an outlet;

a heating system positioned within the body for heating the lens forming composition;

15

a valve positioned proximate the outlet, wherein the valve comprises an elongated member, wherein the elongated member is positionable within the outlet in a closed position, wherein the elongated member in the closed position inhibits flow of the lens forming composition through the outlet, and wherein the elongated member is positionable within the outlet in an open position, wherein the elongated member in an open position allows

20

flow of the lens forming composition flows through the outlet during use.

25

placing the liquid lens forming composition in a mold cavity of a mold assembly, wherein the mold assembly comprises a front mold member and a back mold member, the lens forming composition comprising a monomer composition and a photoinitiator;

directing activating light toward at least one of the mold members to initiate curing of the lens forming composition; and

directing activating light and heat toward at least one of the mold members subsequent to initiating curing of the lens to form the eyeglass lens.

5 65. The method of claim 64, wherein the valve comprises a movable member coupled to the elongated member, wherein the elongated member contacts the movable member at a first position such that the elongated member is in the closed position, and wherein the elongated member contacts the movable member at a second position such that the elongated member is in the open position, and wherein the movable member is movable  
10 such that the position elongated member can be varied from the first position to the second position.

66. The method of claim 64, wherein the body further comprises a chamber positioned within the body, and wherein the heating system is positioned within the  
15 chamber, and wherein the chamber inhibits the lens forming composition from contacting the heating system.

67. The method of claim 64, wherein the heating system comprises a resistive heating system.  
20

68. The method of claim 64, wherein the elongated member extends substantially completely through the outlet when the elongated member is in the closed position.

69. The method of claim 64, wherein the elongated member extends partially into the  
25 outlet when the elongated member is an open position.

70. The method of claim 64, further comprising measuring a temperature of the lens forming composition with a thermostat coupled to the body of the heating apparatus, and

further comprising operating the heating system in response to the temperature measured by the thermostat.

71. The method of claim 64, further comprising measuring a temperature of the lens forming composition with a thermocouple coupled to the body of the heating apparatus, wherein the heating apparatus further comprises a controller coupled to the thermocouple and the heating system, and wherein the controller is configured to control the heating system in response to the temperature measured by the thermocouple.

72. The method of claim 64 further comprising measuring the level of the lens forming composition disposed with the body with a fluid level monitor disposed within the body.

73. The method of claim 64 further comprising measuring the level of the lens forming composition disposed with the body with a fluid level monitor disposed within the body, wherein the heating apparatus further comprises a controller coupled to the fluid monitor and the heating system, wherein the controller configured to control the heating system in response to the level of fluid measured by the fluid level monitor.

74. The method of claim 64, wherein the apparatus is electrically coupleable to a controller of a lens forming apparatus.

75. The method of claim 64, further comprising introducing the lens forming composition into the body of the heating apparatus.

25

76. The method of claim 75, wherein the lens forming composition is stored in a fluid container the fluid container comprising a fluid container body and a cap, wherein the cap comprises a fluid control member and an elastic member, wherein the elastic member is coupled to the fluid control member such that the elastic member exerts a force on the

fluid control member such that the fluid control member is forced against a top inner surface of the cap, wherein the introducing the lens forming composition into the body comprises inserting the cap of the fluid container into the opening of the heating apparatus

5

77. The method of claim 64, wherein the heating apparatus further comprises a mold assembly holder coupled to the heating apparatus body, wherein the mold assembly holder is configured to hold the mold assembly in a position such that the outlet of the heating apparatus body is positioned proximate an inlet of the mold assembly, and  
10 wherein the method further comprises placing the mold assembly on the mold assembly holder prior to placing the lens forming composition in the mold cavity.

78. The method of claim 64, wherein curing of the lens forming composition is initiated by directing activating light toward at least one of the mold members for less  
15 than 100 seconds.

79. The method of claim 64, wherein treating the lens forming composition with activating light and heat comprises directing activating light toward at least one of the mold members and applying heat to both mold members.

20

80. The method of claim 64, further comprising applying heat to the lens in the absence of activating light, subsequent to directing activating light and heat toward at least one of the mold members.

25 81. The method of claim 64, further comprising heating the lens forming composition prior to placing the lens forming composition in a mold cavity.

82. The method of claim 64, wherein directing activating light toward at least one of the mold members to initiate curing is performed in a first lens curing unit, and wherein

directing activating light and heat toward at least one of the mold members subsequent to initiating curing is performed in a second lens curing unit, and wherein the mold assembly holder is configured to fit within the first and second curing units.

5     83.     The method of claim 64, wherein the first lens curing unit is coupled to the second lens curing unit by a conveyor system and further comprising transferring the mold assembly holder from the first curing unit to the second curing unit along the conveyor system subsequent to initiating curing of the lens forming composition.

10     84.     An eyeglass lens made by the method, comprising

heating a lens forming composition in a heating apparatus comprising:

15             a body, the body being configured to hold the lens forming composition, the body comprising an opening for receiving a fluid container and an outlet;

              a heating system positioned within the body for heating the lens forming composition;

20             a valve positioned proximate the outlet, wherein the valve comprises an elongated member, wherein the elongated member is positionable within the outlet in a closed position, wherein the elongated member in the closed position inhibits flow of the lens forming composition through the outlet, and wherein the elongated member is positionable within the outlet in an open position, wherein the elongated member in an open position allows  
25             flow of the lens forming composition flows through the outlet during use.

placing the liquid lens forming composition in a mold cavity of a mold assembly,

wherein the mold assembly comprises a front mold member and a back mold member, the lens forming composition comprising a monomer composition and a photoinitiator;

5 directing activating light toward at least one of the mold members to initiate curing of the lens forming composition; and

directing activating light and heat toward at least one of the mold members subsequent to initiating curing of the lens to form the eyeglass lens.

10

85. The eyeglass lens of claim 84, wherein the valve comprises a movable member coupled to the elongated member, wherein the elongated member contacts the movable member at a first position such that the elongated member is in the closed position, and wherein the elongated member contacts the movable member at a second position such  
15 that the elongated member is in the open position, and wherein the movable member is movable such that the position elongated member can be varied from the first position to the second position.

86. The eyeglass lens of claim 84, wherein the body further comprises a chamber  
20 positioned within the body, and wherein the heating system is positioned within the chamber, and wherein the chamber inhibits the lens forming composition from contacting the heating system.

87. The eyeglass lens of claim 84, wherein the heating system comprises a resistive  
25 heating system.

88. The eyeglass lens of claim 84, wherein the elongated member extends substantially completely through the outlet when the elongated member is in the closed position.

89. The eyeglass lens of claim 84, wherein the elongated member extends partially into the outlet when the elongated member is an open position.

5 90. The eyeglass lens of claim 84, wherein the method further comprises measuring a temperature of the lens forming composition with a thermostat coupled to the body of the heating apparatus, and wherein the method further comprises operating the heating system in response to the temperature measured by the thermostat.

10 91. The eyeglass lens of claim 84, wherein the method further comprises measuring a temperature of the lens forming composition with a thermocouple coupled to the body of the heating apparatus, and wherein the heating apparatus further comprises a controller coupled to the thermocouple and the heating system, and wherein the controller is configured to control the heating system in response to the temperature measured by the  
15 thermocouple.

92. The eyeglass lens of claim 84, wherein the method further comprises measuring the level of the lens forming composition disposed with the body with a fluid level monitor disposed within the body.

20 93. The eyeglass lens of claim 84 wherein the method further comprising measuring the level of the lens forming composition disposed with the body with a fluid level monitor disposed within the body, wherein the heating apparatus further comprises a controller coupled to the fluid monitor and the heating system, wherein the controller is  
25 configured to control the heating system in response to the level of fluid measured by the fluid level monitor.

94. The eyeglass lens of claim 84, wherein the apparatus is electrically coupleable to a controller of a lens forming apparatus.

95. The eyeglass lens of claim 84, wherein the method further comprises introducing the lens forming composition into the body of the heating apparatus.

5 96. The eyeglass lens of claim 95, wherein the lens forming composition is stored in a fluid container the fluid container comprising a fluid container body and a cap, wherein the cap comprises a fluid control member and an elastic member, wherein the elastic member is coupled to the fluid control member such that the elastic member exerts a force on the fluid control member such that the fluid control member is forced against a  
10 top inner surface of the cap, wherein the introducing the lens forming composition into the body comprises inserting the cap of the fluid container into the opening of the heating apparatus

97. The eyeglass lens of claim 84, wherein the heating apparatus further comprises a  
15 mold assembly holder coupled to the heating apparatus body, wherein the mold assembly holder is configured to hold the mold assembly in a position such that the outlet of the heating apparatus body is positioned proximate an inlet of the mold assembly, and wherein the method further comprises placing the mold assembly on the mold assembly holder prior to placing the lens forming composition in the mold cavity.

20 98. The eyeglass lens of claim 84, wherein curing of the lens forming composition is initiated by directing activating light toward at least one of the mold members for less than 100 seconds.

25 99. The eyeglass lens of claim 84, wherein treating the lens forming composition with activating light and heat comprises directing activating light toward at least one of the mold members and applying heat to both mold members.



100. The eyeglass lens of claim 84, wherein the method further comprises applying heat to the lens in the absence of activating light, subsequent to directing activating light and heat toward at least one of the mold members.

5 101. The eyeglass lens of claim 84, wherein the method further comprises heating the lens forming composition prior to placing the lens forming composition in a mold cavity.

102. The eyeglass lens of claim 84, wherein directing activating light toward at least one of the mold members to initiate curing is performed in a first lens curing unit, and  
10 wherein directing activating light and heat toward at least one of the mold members subsequent to initiating curing is performed in a second lens curing unit, and wherein the mold assembly holder is configured to fit within the first and second curing units.

103. The eyeglass lens of claim 84, wherein the first lens curing unit is coupled to the  
15 second lens curing unit by a conveyor system, and wherein the method further comprises transferring the mold assembly holder from the first curing unit to the second curing unit along the conveyor system subsequent to initiating curing of the lens forming composition.

20 104. A gasket configured to engage a first mold set for forming a first lens of a first power, the gasket comprising at least four discrete projections for spacing mold members of a mold set, and wherein the projections are arranged on an interior surface of the gasket and further comprising a fifth projection positioned such that the projection contacts one of a mold member of the first mold set during  
25 use.

105. The gasket of claim 104, wherein the at least four discrete projections are evenly spaced around the interior surface of the gasket.

106. The gasket of claim 104, wherein the at least four discrete projections are spaced at about 90 degree increments around the interior surface of the gasket.

107. The gasket of claim 104, wherein the gasket is configured to engage a second  
5 mold set for forming a second lens of a second power.

108. The gasket of claim 104, further comprising a fill port for receiving a lens forming composition while the gasket is fully engaged to a mold set.

109. The gasket of claim 108, wherein the gasket comprises an interior surface and an  
10 exterior surface, and wherein the fill port extends from the interior surface of the gasket to the exterior surface.

110. The gasket of claim 108, wherein the fifth projection is positioned such that the  
15 projection contacts a first mold member of the first mold set during use, and wherein the gasket further comprises a fill port for receiving a lens forming composition while the gasket is engaged to a mold set, and wherein the fill port is positioned near a second mold member of the first mold set during use.

20 111. An assembly for making plastic prescription lenses, comprising:

a first mold set for forming a first lens of a first power, the first mold set comprising a front mold member and a back mold member;

25 a gasket for engaging the first mold set, the gasket comprising at least four discrete projections for spacing the front mold member from the back mold member and a fifth projection positioned such that the projection contacts a mold member of the first mold set during use;

and wherein the front mold member, the back mold member, and the gasket at least partially define a mold cavity for retaining a lens forming composition.

112. The assembly of claim 111, wherein the back mold member comprises a steep axis and a flat axis, and wherein each of the at least four discrete projections forms an oblique angle with the steep axis and the flat axis of the back mold member.

113. The assembly of claim 111, wherein the back mold member comprises a steep axis and a flat axis, and wherein each of the at least four discrete projections forms an about 45 degree angle with the steep axis and the flat axis of the back mold member.

114. The assembly of claim 111, wherein the gasket is configured to engage a second mold set for forming a second lens of a second power.

115. The assembly of claim 111, wherein the gasket further comprises a fill port for receiving a lens forming composition while the gasket is fully engaged to the mold set.

116. The assembly of claim 111, wherein the fifth projection is positioned such that the projection contacts a first mold member of the first mold set during use, and wherein the gasket further comprises a fill port for receiving a lens forming composition while the gasket is engaged to a mold set, and wherein the fill port is positioned near a second mold member of the first mold set during use.

117. A mold assembly holder configured to support a mold assembly, comprising:  
a body, wherein the body is configured to allow activating light to reach the mold assembly;

an indentation formed in the body, wherein the indentation is complementary to

the shape of the mold assembly.

118. The mold assembly holder of claim 117, wherein the indentation defines an opening, and wherein the opening is positioned such that activating light passes through  
5 the opening and onto the mold assembly during use.

119. The mold assembly holder of claim 118, wherein the opening is substantially centered within the indentation.

10 120. The mold assembly holder of claim 118, wherein a diameter of the opening is less than the diameter of a mold of the mold assembly.

121. The mold assembly holder of claim 117, further comprising additional indentations for holding a mold or a gasket of the mold assembly.

15 122. The mold assembly holder of claim 117, further comprising a ridge disposed on the bottom surface, wherein the ridge is configured to interact with a conveyor system.

123. The mold assembly holder of claim 117, further comprising an additional  
20 indentation for holding an additional mold assembly, wherein the additional indentation has a shape that is complementary with the additional mold assembly.

124. The mold assembly holder of claim 117, wherein a portion of the mold assembly holder is configured to hold a job ticket.

25 125. The mold assembly holder of claim 117, wherein the indentation extends into the body to a depth such that an upper surface of the mold assembly is positioned at or below the upper surface of the body.

126. A method for making a plastic eyeglass lens, comprising:

5 placing a liquid lens forming composition in a mold cavity of a mold assembly, wherein the mold assembly comprises a front mold member and a back mold member, the lens forming composition comprising a monomer composition and a photoinitiator;

10 placing the mold assembly in a mold assembly holder, the mold assembly holder comprising:

a body, wherein the body is configured to allow activating light to reach the mold assembly;

15 an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

20 directing activating light toward at least one of the mold members to initiate curing of the lens forming composition; and

directing activating light and heat toward at least one of the mold members subsequent to initiating curing of the lens to form the eyeglass lens.

25 127. The method of claim 126, wherein the indentation defines an opening, and wherein the opening is positioned such that activating light passes through the opening and onto the mold assembly during use.

128. The method of claim 127, wherein the opening is substantially centered within the indentation.

129. The method of claim 127, wherein a diameter of the opening is less than the diameter of a mold of the mold assembly.

5 130. The method of claim 126, further comprising additional indentations for holding a mold or a gasket of the mold assembly.

131. The method of claim 126, further comprising a ridge disposed on the bottom surface, wherein the ridge is configured to interact with a conveyor system.

10

132. The method of claim 126, further comprising an additional indentation for holding an additional mold assembly, wherein the additional indentation has a shape that is complementary with the additional mold assembly.

15 133. The method of claim 126, wherein a portion of the mold assembly holder is configured to hold a job ticket.

134. The method of claim 126, wherein the indentation extends into the body to a depth such that an upper surface of the mold assembly is positioned at or below the upper  
20 surface of the body.

135. The method of claim 126, wherein curing of the lens forming composition is initiated by directing activating light toward at least one of the mold members for less than 100 seconds.

25

136. The method of claim 126, wherein treating the lens forming composition with activating light and heat comprises directing activating light toward at least one of the mold members and applying heat to both mold members.

137. The method of claim 126, further comprising applying heat to the lens in the absence of activating light, subsequent to directing activating light and heat toward at least one of the mold members.

5 138. The method of claim 126, further comprising heating the lens forming composition prior to placing the lens forming composition in a mold cavity.

139. The method of claim 126, wherein directing activating light toward at least one of the mold members to initiate curing is performed in a first lens curing unit, and wherein  
10 directing activating light and heat toward at least one of the mold members subsequent to initiating curing is performed in a second lens curing unit, and wherein the mold assembly holder is configured to fit within the first and second curing units.

140. The method of claim 139, wherein the first lens curing unit is coupled to the  
15 second lens curing unit by a conveyor system and further comprising transferring the mold assembly holder from the first curing unit to the second curing unit along the conveyor system subsequent to initiating curing of the lens forming composition.

141. An eyeglass lens made by the method, comprising:  
20

placing a liquid lens forming composition in a mold cavity of a mold assembly, wherein the mold assembly comprises a front mold member and a back mold member, the lens forming composition comprising a monomer composition and a photoinitiator;

25

placing the mold assembly in a mold assembly holder, the mold assembly holder comprising:

a body, wherein the body is configured to allow activating light to reach the mold assembly;

5 an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

directing activating light toward at least one of the mold members to initiate curing of the lens forming composition; and

10 directing activating light and heat toward at least one of the mold members subsequent to initiating curing of the lens to form the eyeglass lens.

142. The method of claim 141, wherein the indentation defines an opening, and wherein the opening is positioned such that activating light passes through the opening  
15 and onto the mold assembly during use.

143. The method of claim 142, wherein the opening is substantially centered within the indentation.

20 144. The method of claim 142, wherein a diameter of the opening is less than the diameter of a mold of the mold assembly.

145. The method of claim 141, further comprising additional indentations for holding a mold or a gasket of the mold assembly.

25 146. The method of claim 141, further comprising a ridge disposed on the bottom surface, wherein the ridge is configured to interact with a conveyor system.



147. The method of claim 141, further comprising an additional indentation for holding an additional mold assembly, wherein the additional indentation has a shape that is complementary with the additional mold assembly.

5 148. The method of claim 141, wherein a portion of the mold assembly holder is configured to hold a job ticket.

149. The method of claim 141, wherein the indentation extends into the body to a depth such that an upper surface of the mold assembly is positioned at or below the upper  
10 surface of the body.

150. The method of claim 141, wherein curing of the lens forming composition is initiated by directing activating light toward at least one of the mold members for less than 100 seconds.

15 151. The method of claim 141, wherein treating the lens forming composition with activating light and heat comprises directing activating light toward at least one of the mold members and applying heat to both mold members.

20 152. The method of claim 141, further comprising applying heat to the lens in the absence of activating light, subsequent to directing activating light and heat toward at least one of the mold members.

153. The method of claim 141, further comprising heating the lens forming  
25 composition prior to placing the lens forming composition in a mold cavity.

154. The method of claim 141, wherein directing activating light toward at least one of the mold members to initiate curing is performed in a first lens curing unit, and wherein directing activating light and heat toward at least one of the mold members subsequent to

initiating curing is performed in a second lens curing unit, and wherein the mold assembly holder is configured to fit within the first and second curing units.

155. The method of claim 154, wherein the first lens curing unit is coupled to the  
5 second lens curing unit by a conveyor system and further comprising transferring the mold assembly holder from the first curing unit to the second curing unit along the conveyor system subsequent to initiating curing of the lens forming composition.

156. A ballast system for controlling the operation of a fluorescent lamp, comprising:  
10

an instant start ballast, wherein the instant start ballast is configured to deliver a striking voltage to the fluorescent lamp, and wherein the instant start ballast is further configured to regulate the current to the fluorescent lamp when the fluorescent lamp is on; and

15 a transformer, wherein the transformer is configured to deliver voltage to a filament of the fluorescent lamp when the fluorescent lamp is off.

157. The ballast system of claim 156, wherein the instant start ballast is configured to  
20 apply a striking voltage of between about 250 to about 400 V.

158. The ballast system of claim 156, wherein the voltage supplied by the transformer is sufficient to keep the filament of the fluorescent lamp at a temperature proximate the optimal operating temperature of the filament.

25 159. The ballast system of claim 156, wherein the voltage supplied by the transformer is sufficient to keep the and the fluorescent lamp at a temperature proximate the optimal operating temperature of the fluorescent lamp.

160. The ballast system of claim 156, wherein the transformer is a toroidal transformer.

161. The ballast system of claim 156, wherein the transformer and the instant start ballast are independently operable.

5

162. The ballast system of claim 156, further comprising a controller coupled to the instant start ballast and the transformer, wherein the controller is configured to independently operate the instant start ballast and the transformer.

10 163. The ballast system of claim 156, further comprising a controller coupled to the instant start ballast and the transformer, wherein the controller is configured to independently operate the instant start ballast and the transformer, and wherein the controller is further configured to turn the transformer off before turning the instant start ballast on.

15

164. The ballast system of claim 156, further comprising a controller coupled to the instant start ballast and the transformer, wherein the controller is configured to independently operate the instant start ballast and the transformer, and wherein the controller is further configured to turn the transformer on when the lamp is turned off.

20

165. The ballast system of claim 156, further comprising a controller coupled to the instant start ballast and the transformer, wherein the controller is configured to turn the transformer off after a predetermined amount of time has passed without receiving a signal to turn the fluorescent lamp on.

25

166. The ballast system of claim 156, wherein the transformer is configured to apply less than about 5 V to the filament.

167. The ballast system of claim 156, wherein the instant start ballast is a high frequency ballast.

168. A method of operating a fluorescent lamp, comprising:

5

coupling the fluorescent lamp to a ballast system, the ballast system comprising:

10

an instant start ballast, wherein the instant start ballast is configured to deliver a striking voltage to the fluorescent lamp, and wherein the instant start ballast is further configured to regulate the current to the fluorescent lamp when the fluorescent lamp is on; and

15

a transformer, wherein the transformer is configured to deliver voltage to a filament of the fluorescent lamp when the fluorescent lamp is off;

20

operating the transformer such that voltage is delivered to the filament of the fluorescent lamp;

operating the instant start ballast such that a striking voltage is applied to the fluorescent lamp causing the fluorescent lamp to produce light.

169. The method of claim 168, wherein the instant start ballast is configured to apply a striking voltage of between about 250 to about 400 V.

25

170. The method of claim 168, wherein the voltage supplied by the transformer is sufficient to keep the filament of the fluorescent lamp at a temperature proximate the optimal operating temperature of the filament.

171. The method of claim 168, wherein the voltage supplied by the transformer is sufficient to keep the and the fluorescent lamp at a temperature proximate the optimal operating temperature of the fluorescent lamp.

5 172. The method of claim 168, wherein the transformer is a toroidal transformer.

173. The method of claim 168, wherein the transformer and the instant start ballast are independently operable.

10 174. The method of claim 168, wherein the ballast system further comprises a controller coupled to the instant start ballast and the transformer, wherein the controller is configured to independently operate the instant start ballast and the transformer.

15 175. The method of claim 168, further comprising turning off the transformer prior to operating the instant start ballast.

176. The method of claim 168, wherein the transformer is configured to apply less than about 5 V to the filament.

20 177. The method of claim 168, wherein the instant start ballast is a high frequency ballast.

178. A system for preparing an eyeglass lens, comprising:

25 a mold assembly comprising:

a first mold member having a casting face and a non-casting face;

a second mold member having a casting face and a non-casting face, the

second mold member being configured to be spaced apart from the first mold member during use such that the casting faces of the first mold member and the second mold member at least partially define a mold cavity;

5

an apparatus for curing a lens forming composition, comprising:

10

a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light toward a mold assembly during use;

15

a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit; and

a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit.

20 179. The system of claim 178, wherein the first activating light source is an ultraviolet light source.

180. The system of claim 178, wherein the second activating light source is an ultraviolet light.

25

181. The system of claim 178, wherein the first and second activating light sources are ultraviolet lights.

182. The system of claim 178, wherein the first and second activating light sources have substantially the same spectral output.

183. The system of claim 178, wherein the first and second activating light sources  
5 have a peak light intensity at a range of about 385 nm to about 490 nm.

184. The system of claim 178, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.

10

185. The system of claim 178, wherein the first activating light source is configured to generate pulses of activating light.

186. The system of claim 178, wherein the second activating light source is configured  
15 to generate pulses of activating light.

187. The system of claim 178, wherein the first and second activating light sources are configured to generate pulses of activating light.

188. The system of claim 178, further comprising a filter disposed directly adjacent to  
20 the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

189. The system of claim 178, further comprising a filter disposed directly adjacent to  
25 the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

190. The system of claim 178, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an

intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

5

191. The system of claim 188, wherein the filter is comprises a metal plate defining an aperture.

192. The system of claim 189, wherein the filter is comprises a metal plate defining an  
10 aperture.

193. The system of claim 190, wherein the first and second filters comprise a metal plate defining an aperture.

194. The system of claim 178, further comprising an air distributor positioned within  
15 the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.

195. The system of claim 178, further comprising an anneal unit, the anneal unit  
20 comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

196. The system of 195, wherein the anneal unit heating system is configured to heat  
the interior of the anneal unit to a temperature of up to about 250 °F.

25

197. The system of claim 195, wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.



198. The system of claim 178, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.

5 199. The system of claim 178, wherein the first activating light source comprises a first set of lamps and a second set of lamps, and further comprising a programmable controller configured to individually control the first and second sets of lamps.

200. The system of claim 178, further comprising a programmable controller  
10 configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

201. The system of claim 178, wherein the first activating light source comprises a  
fluorescent lamp, and wherein the first activating light source further comprises a flasher  
15 ballast system coupled to the fluorescent lamp.

202. The system of claim 178, wherein the second activating light source comprises a  
fluorescent lamp, and wherein the second activating light source further comprises a  
flasher ballast system coupled to the fluorescent lamp.

20 203. The system of claim 178, wherein the first activating light source comprises a first  
fluorescent lamp, and wherein the first activating light source further comprises a first  
flasher ballast system coupled to the first fluorescent lamp, and wherein the second  
activating light source comprises a second fluorescent lamp, and wherein the second  
25 activating light source further comprises a second flasher ballast system coupled to the  
second fluorescent lamp.

204. The system of claim 201, wherein the flasher ballast system comprises an instant  
start ballast and a transformer.

205. The system of claim 202, wherein the flasher ballast system comprises an instant start ballast and a transformer.
- 5 206. The system of claim 203, wherein the first flasher ballast system comprises an instant start ballast and a transformer, and wherein the second flasher ballast system comprises an instant start ballast and a transformer.
207. The system of claim 178, wherein the first activating light source comprises two  
10 or more lamps, and wherein the lamps are independently operable.
208. The system of claim 178, wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the  
15 mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.
209. The system of claim 178, wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from  
20 the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.
210. The system of claim 178, wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is  
25 coupled to a motor configured to move the flexible member through the conveyor system.
211. The system of claim 178 wherein the mold assembly further comprises a gasket configured to engage the first mold member and the second mold member, the gasket comprising at least four discrete projections for spacing the mold members, and wherein

the projections are arranged on an interior surface of the gasket, and wherein the gasket further comprises a fifth projection positioned such that the projection contacts one of the mold members during use.

5     212.    The system of claim 211, wherein the at least four discrete projections of the gasket are evenly spaced around the interior surface of the gasket.

213.    The system of claim 211, wherein the at least four discrete projections of the gasket are spaced at about 90 degree increments around the interior surface of the gasket.

10

214.    The system of claim 211, wherein the gasket further comprises a fill port for receiving a lens forming composition while the gasket is fully engaged to a mold set.

15     215.    The system of claim 214, wherein the fill port extends from an interior surface of the gasket to an exterior surface of the gasket.

216.    The system of claim 211, wherein the fifth projection is positioned such that the projection contacts the first mold member, and wherein the gasket further comprises a fill port for receiving a lens forming composition while the gasket is engaged to the molds,  
20     and wherein the fill port is positioned near the second mold member during use.

217.    The system of claim 178, further comprising a mold assembly holder configured to support the mold assembly, comprising:

25            a body, wherein the body is configured to allow activating light to reach the mold assembly;

            an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

218. The system of claim 217, wherein the indentation defines an opening, and wherein the opening is positioned such that activating light from the first activating light source passes through the opening and onto the mold assembly when the mold assembly is  
5 positioned within the first lens curing unit.

219. The system of claim 217, wherein the indentation defines an opening, and wherein the opening is positioned such that activating light from the second activating light source passes through the opening and onto the mold assembly when the mold assembly is  
10 positioned within the second lens curing unit.

220. The system of claim 217, wherein the indentation defines an opening, and wherein the opening is positioned such that activating light from the first activating light source passes through the opening and onto the mold assembly when the mold assembly is  
15 positioned within the first lens curing unit, and wherein the opening is positioned such that activating light from the second activating light source passes through the opening and onto the mold assembly when the mold assembly is positioned within the second lens curing unit.

20 221. The system of claim 217, wherein the mold assembly holder further comprises additional indentations for holding a mold or a gasket of the mold assembly.

222. The system of claim 217, wherein the mold assembly holder further comprises a ridge disposed on the bottom surface, wherein the ridge is configured to interact with a  
25 conveyor system.

223. The system of claim 178, further comprising a monomer heating apparatus for dispensing a heated polymerizable lens forming composition comprising:

a body, the body being configured to hold the lens forming composition, the body comprising an opening for receiving a fluid container and an outlet;

5 a heating system positioned within the body for heating the lens forming composition;

a valve positioned proximate the outlet, wherein the valve comprises an elongated member, wherein the elongated member is positionable within  
10 the outlet in a closed position, wherein the elongated member in the closed position inhibits flow of the lens forming composition through the outlet, and wherein the elongated member is positionable within the outlet in an open position, wherein the elongated member in an open position allows flow of the lens forming composition flows through the outlet during use.

15 224. The system of claim 223, further comprising a programmable controller, wherein the programmable controller is configured to control the operation of the first curing unit, the second curing unit, and the monomer heating apparatus.

20 225. A system for preparing an eyeglass lens, comprising:

a mold assembly comprising:

a first mold member having a casting face and a non-casting face;

25 a second mold member having a casting face and a non-casting face, the second mold member being configured to be spaced apart from the first mold member during use such that the casting faces of the first mold member and the second mold member at least partially define a mold

cavity;

an apparatus for curing a lens forming composition, comprising:

5           a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light toward a mold assembly during use;

10           a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit; and

15           a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit; and

a lens forming composition configured to be disposed within the mold cavity during use, comprising:

20           a monomer that cures by exposure to activating light to form the eyeglass lens during use; and

25           a photoinitiator that initiates curing of the monomer in response to being exposed to activating light during use.

226. The system of claim 225, wherein the lens forming composition further comprises a photochromic compound.

227. The system of claim 225, wherein the lens forming composition further comprises an ultraviolet/visible light absorbing compound.

228. The system of claim 225, wherein the monomer comprises an aromatic containing  
5 bis(allyl carbonate)-functional monomer.

229. The system of claim 225, wherein the monomer comprises an aromatic containing polyethylenic polyether functional monomer.

10 230. The system of claim 225, wherein the monomer composition comprises a polyethylenic functional monomer.

231. The system of claim 225, wherein the lens forming composition further comprises a co-initiator composition, wherein the co-initiator composition comprises an amine.  
15

232. The system of claim 225, wherein the lens forming composition further comprises a co-initiator composition, wherein the co-initiator composition comprises an acrylyl amine.

20 233. The system of claim 225, wherein the lens forming composition further comprises a co-initiator composition, wherein the co-initiator composition comprises an acrylyl amine, the acrylyl amine comprising monoacrylated amines, diacrylated amines, or mixtures thereof.

25 234. The system of claim 225 wherein the photoinitiator comprises bis(2,6-dimethoxybenzoyl)-(2,4,4-trimethylphenyl)phosphine oxide.

235. The system of claim 225, wherein the lens forming composition further comprises a dye to form a background color within the lens.

30

236. The system of claim 225 wherein the lens forming composition is curable to a substantially aberration free lens in less than about 30 minutes.

237. The system of claim 225, wherein the first activating light source is an ultraviolet  
5 light source.

238. The system of claim 225, wherein the second activating light source is an ultraviolet light.

10 239. The system of claim 225, wherein the first and second activating light sources are ultraviolet lights.

240. The system of claim 225, wherein the first and second activating light sources have substantially the same spectral output.

15 241. The system of claim 225, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.

242. The system of claim 225, wherein the first activating light source comprises a first  
20 set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.

243. The system of claim 225 wherein the first activating light source is configured to generate pulses of activating light.

25 244. The system of claim 225 wherein the second activating light source is configured to generate pulses of activating light.



245. The system of claim 225 wherein the first and second activating light sources are configured to generate pulses of activating light.

246. The system of claim 225, further comprising a filter disposed directly adjacent to  
5 the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

247. The system of claim 225, further comprising a filter disposed directly adjacent to  
10 the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

248. The system of claim 225, further comprising a first filter disposed directly  
adjacent to the first activating light source, the filter being configured to manipulate an  
intensity of the activating light emanating from the first activating light source, and  
15 further comprising a second filter disposed directly adjacent to the second activating light  
source, the filter being configured to manipulate an intensity of the activating light  
emanating from the second activating light source.

249. The system of claim 246, wherein the filter is comprises a metal plate defining an  
20 aperture.

250. The system of claim 247, wherein the filter is comprises a metal plate defining an  
aperture.

251. The system of claim 248, wherein the first and second filters comprise a metal  
25 plate defining an aperture.

252. The system of claim 225, further comprising an air distributor positioned within  
the second curing unit, the air distributor being configured to circulate air within the

second curing unit during use.

253. The system of claim 225, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is  
5 configured to heat the interior of the anneal unit.

254. The system of claim 253, wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

10 255. The system of claim 253, wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

256. The system of claim 225, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and  
15 the second curing unit during use.

257. The system of claim 225, wherein the first activating light source comprises a first set of lamps and a second set of lamps, and further comprising a programmable controller configured to individually control the first and second sets of lamps.  
20

258. The system of claim 225, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

25 259. The system of claim 225, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

260. The system of claim 225, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

5 261. The system of claim 225, wherein the first activating light source comprises a first fluorescent lamp, and wherein the first activating light source further comprises a first flasher ballast system coupled to the first fluorescent lamp, and wherein the second activating light source comprises a second fluorescent lamp, and wherein the second activating light source further comprises a second flasher ballast system coupled to the  
10 second fluorescent lamp.

262. The system of claim 259, wherein the flasher ballast system comprises an instant start ballast and a transformer.

15 263. The system of claim 260, wherein the flasher ballast system comprises an instant start ballast and a transformer.

264. The system of claim 261, wherein the first flasher ballast system comprises an instant start ballast and a transformer, and wherein the second flasher ballast system  
20 comprises an instant start ballast and a transformer.

265. The system of claim 225, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

25 266. The system of claim 225, wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

267. The system of claim 225, wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is  
5 configured to convey the mold assemblies through the second curing unit.

268. The system of claim 225, wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

10

269. The system of claim 225 wherein the mold assembly further comprises a gasket configured to engage the first mold member and the second mold member, the gasket comprising at least four discrete projections for spacing the mold members, and wherein the projections are arranged on an interior surface of the gasket, and wherein the gasket  
15 further comprises a fifth projection positioned such that the projection contacts one of the mold members during use.

270. The system of claim 269, wherein the at least four discrete projections of the gasket are evenly spaced around the interior surface of the gasket.

20

271. The system of claim 269, wherein the at least four discrete projections of the gasket are spaced at about 90 degree increments around the interior surface of the gasket.

272. The system of claim 269, wherein the gasket further comprises a fill port for  
25 receiving a lens forming composition while the gasket is fully engaged to a mold set.

273. The system of claim 272, wherein the fill port extends from an interior surface of the gasket to an exterior surface of the gasket.

274. The system of claim 269, wherein the fifth projection is positioned such that the projection contacts the first mold member, and wherein the gasket further comprises a fill port for receiving a lens forming composition while the gasket is engaged to the molds, and wherein the fill port is positioned near the second mold member during use.

5

275. The system of claim 225, further comprising a mold assembly holder configured to support the mold assembly, comprising:

10 a body, wherein the body is configured to allow activating light to reach the mold assembly;

an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

15 276. The system of claim 275, wherein the indentation defines an opening, and wherein the opening is positioned such that activating light from the first activating light source passes through the opening and onto the mold assembly when the mold assembly is positioned within the first lens curing unit.

20 277. The system of claim 275, wherein the indentation defines an opening, and wherein the opening is positioned such that activating light from the second activating light source passes through the opening and onto the mold assembly when the mold assembly is positioned within the second lens curing unit.

25 278. The system of claim 275, wherein the indentation defines an opening, and wherein the opening is positioned such that activating light from the first activating light source passes through the opening and onto the mold assembly when the mold assembly is positioned within the first lens curing unit, and wherein the opening is positioned such that activating light from the second activating light source passes through the opening

and onto the mold assembly when the mold assembly is positioned within the second lens curing unit.

279. The system of claim 275, wherein the mold assembly holder further comprises  
5 additional indentations for holding a mold or a gasket of the mold assembly.

280. The system of claim 275, wherein the mold assembly holder further comprises a ridge disposed on the bottom surface, wherein the ridge is configured to interact with a conveyor system.

10

281. The system of claim 225, further comprising a monomer heating apparatus for dispensing a heated polymerizable lens forming composition comprising:

15

a body, the body being configured to hold the lens forming composition, the body comprising an opening for receiving a fluid container and an outlet;

20

a heating system positioned with the body for heating the monomer solution;

25

a valve positioned proximate the outlet, wherein the valve comprises an elongated member, wherein the elongated member is positionable within the in a closed position, wherein the elongated member in the closed position inhibits flow of the lens forming composition through the outlet, and wherein the elongated member is positionable within the conduit in an open position, wherein the elongated member in an open position allows flow of the lens forming composition flows through the outlet during use.

282. The system of claim 281, further comprising a programmable controller, wherein the programmable controller is configured to control the operation of the first curing unit, the second curing unit, and the monomer heating apparatus.
- 5 283. A computer-implemented method for controlling formation of an eyeglass lens, the method comprising:
- receiving prescription information, wherein the prescription information defines an eyeglass prescription;
- 10 analyzing the prescription information; and
- determining a front mold identification marking, a back mold identification marking, and a gasket identification marking of an appropriate front mold, back mold and gasket for producing the eyeglass lens in response to analyzing the prescription information;
- 15 wherein the front mold, the back mold and the gasket together are operable to produce a mold cavity, the mold cavity being configured to hold a lens forming composition which is curable to produce the eyeglass lens from the prescription, the front mold member comprising the front mold identification marking, the back mold member comprising the back mold identification marking, and the gasket member comprising the gasket identification marking.
- 20
- 25 284. The method of claim 283, wherein receiving the prescription information comprises reading the prescription information from a barcode.

285. The method of claim 283, wherein receiving the prescription information comprises receiving the prescription information from an input device, wherein the input device is operable by a user to enter prescription information.

5 286. The method of claim 283, wherein the prescription information comprises a sphere power, a cylinder power, and a lens location.

287. The method of claim 286, wherein analyzing the prescription information comprises:

10

correlating the sphere power, the cylinder power and the lens location to a record in an information database.

15 288. The method of claim 287, wherein determining the front mold identification marking, the back mold identification marking, and the gasket identification marking comprises:

20

reading the front mold identification marking, the back mold identification marking, and the gasket identification marking from the record in the information database correlated with the sphere power, the cylinder power and the lens location.

25

289. The method of claim 286, wherein the prescription information further comprises a monomer type and a lens type.

290. The method of claim 283, wherein the prescription information comprises a sphere power, a cylinder power, an add power and a lens location.



291. The method of claim 290, wherein analyzing the prescription information comprises:

5 correlating the sphere power, the cylinder power, the add power, and the lens location to a record in an information database.

292. The method of claim 291, wherein determining the front mold identification marking, the back mold identification marking, and the gasket identification marking comprises:

10 reading the front mold identification marking, the back mold identification marking, and the gasket identification marking from the record in the information database correlated with the sphere power, the cylinder power, the add power, and the lens location.

15 293. The method of claim 290, wherein the prescription information further comprises a monomer type and a lens type.

20 294. The method of claim 283, wherein the front mold identification marking comprises an alphanumeric sequence, and wherein the back mold identification marking comprises an alphanumeric sequence, and wherein the gasket identification marking comprises an alphanumeric sequence.

25 295. The method of claim 283, further comprising:

displaying the front mold identification marking, the back mold identification marking, and the gasket identification marking on a display device subsequent to determining the front mold identification marking,

the back mold identification marking, and the gasket identification marking.

296. The method of claim 283, further comprising:

5

determining a specific lens forming composition for producing the eyeglass lens in response to analyzing the prescription information.

297. The method of claim 296, further comprising:

10

displaying the specific lens forming composition on a display device subsequent to determining the specific lens forming composition.

298. The method of claim 283, further comprising:

15

determining curing conditions for the eyeglass lens in response to analyzing the prescription information.

299. The method of claim 283, further comprising:

20

determining a second front mold identification marking, a second back mold identification marking, and second a gasket identification marking of an appropriate second front mold, second back mold and second gasket for producing a second eyeglass lens in response to analyzing the prescription information

25

300. The method of claim 283, further comprising:



monitoring a dose of activating light transmitted to the lens forming composition; and

5                   varying the intensity or duration of the activating light transmitted to the lens forming composition such that a predetermined dose is transmitted to the lens forming composition.

306.   The method of claim 300, wherein the curing unit comprises a plurality of light sources, and wherein controlling the curing unit comprises controlling each of the  
10                   plurality of light sources independently.

307.   The method of claim 300, wherein the curing unit comprises a plurality of light sources, and wherein one or more of the plurality of light sources are above the mold members and one or more of the plurality of light sources are below the  
15                   mold members, and wherein controlling the curing unit comprises controlling the directing of activating light from the plurality of light sources toward at least one of the mold members.

308.   The method of claim 300, wherein the curing unit comprises one or more light  
20                   sources and one or more access doors, and wherein controlling the curing unit comprises:

                  preventing the one or more light sources from emitting light when one or more of the access doors is opened.

25

309.   The method of claim 300, further comprising:

                  determining curing conditions for a plurality of eyeglass lenses in response to analyzing the prescription information; and

wherein controlling the curing unit comprises controlling the curing unit such that the curing conditions for the plurality of eyeglass lenses are produced.

5     310.    The method of claim 309, wherein controlling the curing unit is performed substantially concurrently for the plurality of eyeglass lenses.

311.    The method of claim 283, further comprising:

10                    controlling a post-cure unit, the post-cure unit being configured to substantially complete curing of the eyeglass lens.

312.    The method of claim 311, further comprising:

15                    determining curing conditions for the eyeglass lens in response to analyzing the prescription information; and

wherein controlling the post-cure unit comprises operating the post-cure unit such that the curing conditions are produced.

20

313.    The method of claim 312, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, and wherein controlling the post-cure unit comprises controlling the plurality of activating light sources and the plurality of heat sources to produce the curing conditions for the eyeglass lens.

25

314.    The method of claim 311, wherein the post-cure unit is configured to apply heat and activating light to the lens forming composition disposed in a mold assembly or a demolded lens to substantially complete curing of the eyeglass lens during use.

315. The method of claim 311, wherein controlling the post-cure unit comprises controlling the application of heat and activating light to the lens forming composition disposed in a mold assembly or a demolded lens, wherein the application of heat and activating light in the post-cure unit is effective to substantially complete curing of the eyeglass lens.
316. The method of claim 311, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, wherein controlling the post-cure unit comprises controlling each of the plurality of light sources and each of the plurality of heat sources independently.
317. The method of claim 311, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, wherein one or more of the plurality of light sources are above the mold members and one or more of the plurality of light sources are below the mold members, wherein one or more of the plurality of heat sources are above the mold members and one or more of the plurality of heat sources are below the mold members, wherein controlling the post-cure unit comprises:
- controlling the directing of activating light from the plurality of light sources toward at least one of the mold members; and
- controlling the application of heat from the plurality of light sources toward at least one of the mold members.
318. The method of claim 311, wherein the post-cure unit comprises one or more light sources and one or more access doors, and wherein controlling the post-cure unit comprises:

preventing the one or more light sources from emitting light when one or more of the access doors is opened.

5     319.   The method of claim 311, further comprising:

          determining curing conditions for a plurality of eyeglass lenses in response to analyzing the prescription information; and

10           wherein controlling the post-cure unit comprises controlling the post-cure unit such that the curing conditions for the plurality of eyeglass lenses are produced.

320.   The method of claim 318, wherein controlling the post-cure unit is performed substantially concurrently for the plurality of eyeglass lenses.

15

321.   The method of claim 283, further comprising:

          controlling a coating unit, the coating unit being configured to produce a coating on at least one of the mold members or the eyeglass lens during use.

20

322.   The method of claim 321, further comprising:

          determining coating requirements for the eyeglass lens in response to user input; and

25

          wherein controlling the coating unit comprises operating the coating unit such that the coating requirements are produced.

323. The method of claim 321, wherein the coating unit is a spin coating unit, and wherein controlling the coating unit comprises controlling the rotation of a lens holder, wherein the lens holder is configured to substantially secure the eyeglass lens during use.

5

324. The method of claim 323, wherein controlling the rotation of the lens holder comprises controlling a rotational speed of the lens holder.

325. The method of claim 321, wherein the coating unit comprises a light source, and wherein controlling the coating unit comprises controlling the light source.

10

326. The method of claim 325, wherein controlling the light source comprises controlling a duration of the light source.

327. The method of claim 321, wherein the coating unit comprises a light source and one or more access doors, and wherein controlling the coating unit comprises:

15

preventing the light source from emitting light when one or more of the access doors is opened.

20

328. The method of claim 283, further comprising:

controlling a curing unit, the curing unit being configured to cure the lens forming composition; and

25

controlling a post-cure unit, the post-cure unit being configured to substantially complete curing of the eyeglass lens.

329. The method of claim 327, further comprising:



determining curing conditions for the eyeglass lens in response to  
analyzing the prescription information; and

5            wherein controlling the curing unit and controlling the post-cure unit comprises  
controlling the curing unit and controlling the post-cure unit such that the curing  
conditions are produced.

330.    The method of claim 327, wherein controlling the curing unit and controlling the  
10           post-cure unit are performed substantially concurrently.

331.    The method of claim 327, further comprising:

15                            controlling a coating unit, the coating unit being configured to produce a  
coating on at least one of the mold members or the eyeglass lens during  
use.

332.    The method of claim 331, further comprising:

20                            determining coating requirements for the eyeglass lens in response to  
analyzing the prescription information; and

                          wherein controlling the coating unit comprises operating the coating unit such that  
the coating requirements are produced.

25

333.    The method of claim 331, wherein controlling the curing unit, controlling the  
post-cure unit, and controlling the coating unit are performed substantially  
concurrently.

334. The method of claim 283, further comprising:

altering the eyeglass prescription after receiving the prescription information.

5

335. The method of claim 283, further comprising:

storing the eyeglass prescription on a computer readable media.

10 336. The method of claim 283, further comprising:

displaying operating instructions on a display device for a user during a lens forming process.

15 337. A computer-implemented method for controlling formation of an eyeglass lens, the method comprising:

receiving prescription information, wherein the prescription information defines an eyeglass prescription;

20

analyzing the prescription information;

determining curing conditions for the eyeglass lens in response to analyzing the prescription information;

25

controlling a curing unit, the curing unit being configured to cure at least a portion of a lens forming composition in a mold; and

controlling a post-cure unit, the post-cure unit being configured to substantially complete curing of the eyeglass lens.

5 338. The method of claim 337, wherein controlling the curing unit and controlling the post-cure unit comprise controlling the curing unit and controlling the post-cure unit such that the curing conditions are produced to cure the lens forming composition to produce the eyeglass lens from the prescription.

10 339. The method of claim 337, wherein receiving the prescription information comprises reading the prescription information from a barcode.

15 340. The method of claim 337, wherein receiving the prescription information comprises receiving the prescription information from an input device, wherein the input device is operable by a user to enter prescription information.

341. The method of claim 337, wherein the prescription information comprises a sphere power, a cylinder power, and a lens location.

20 342. The method of claim 341, wherein analyzing the prescription information comprises:

correlating the sphere power, the cylinder power and the lens location to a record in an information database.

25 343. The method of claim 342, further comprising:

reading a front mold identification marking, a back mold identification marking, and a gasket identification marking from the record in the

information database correlated with the sphere power, the cylinder power and the lens location.

5 344. The method of claim 341, wherein the prescription information further comprises a monomer type and a lens type.

345. The method of claim 337, wherein the prescription information comprises a sphere power, a cylinder power, an add power and a lens location.

10 346. The method of claim 345, wherein analyzing the prescription information comprises:

correlating the sphere power, the cylinder power, the add power, and the lens location to a record in an information database.

15

347. The method of claim 346, further comprising:

reading a front mold identification marking, a back mold identification marking, and a gasket identification marking from the record in the information database correlated with the sphere power, the cylinder power, the add power, and the lens location.

20

348. The method of claim 345, wherein the prescription information further comprises a monomer type and a lens type.

25

349. The method of claim 337, wherein the curing unit is configured to cure at least a portion of the lens forming composition into the eyeglass lens by directing activating light toward the eyeglass lens during use.

350. The method of claim 337, wherein controlling the curing unit comprises controlling activating light directed toward the lens forming composition, wherein the directing of the activating light toward the lens forming composition in the curing unit is effective to cure at least a portion of the lens forming composition into the eyeglass lens.

351. The method of claim 337, wherein controlling the curing unit comprises:

monitoring a dose of activating light transmitted to the lens forming composition; and

varying the intensity or duration of the activating light transmitted to the lens forming composition such that a predetermined dose is transmitted to the lens forming composition.

352. The method of claim 337, wherein the curing unit comprises a plurality of light sources, and wherein controlling the curing unit comprises controlling each of the plurality of light sources independently.

353. The method of claim 337, wherein the curing unit comprises a plurality of light sources, and wherein one or more of the plurality of light sources are above the mold members and one or more of the plurality of light sources are below the mold members, and wherein controlling the curing unit comprises controlling the directing of activating light from the plurality of light sources toward at least one of the mold members.

354. The method of claim 337, wherein the curing unit comprises a plurality of light sources, and wherein controlling the curing unit comprises controlling the activating light sources to produce the curing conditions for the eyeglass lens.

355. The method of claim 337, wherein the curing unit comprises one or more light sources and one or more access doors, and wherein controlling the curing unit comprises:

5

preventing the one or more light sources from emitting light when one or more of the access doors is opened.

356. The method of claim 337, further comprising:

10

determining curing conditions for a plurality of eyeglass lenses in response to analyzing the prescription information; and

15

wherein controlling the curing unit comprises controlling the curing unit such that the curing conditions for the plurality of eyeglass lenses are produced.

357. The method of claim 356, wherein controlling the curing unit is performed substantially concurrently for the plurality of eyeglass lenses.

20

358. The method of claim 337, wherein the post-cure unit is configured to apply heat and activating light to the lens forming composition disposed in a mold assembly or a demolded lens to substantially complete curing of the eyeglass lens during use.

25

359. The method of claim 337, wherein controlling the post-cure unit comprises controlling the application of heat and activating light to the lens forming composition disposed in a mold assembly or a demolded lens, wherein the application of heat and activating light in the post-cure unit is effective to substantially complete curing of the eyeglass lens.

360. The method of claim 337, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, wherein controlling the post-cure unit comprises controlling each of the plurality of light sources and each of the plurality of heat sources independently.

361. The method of claim 337, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, wherein one or more of the plurality of light sources are above the mold members and one or more of the plurality of light sources are below the mold members, wherein one or more of the plurality of heat sources are above the mold members and one or more of the plurality of heat sources are below the mold members, wherein controlling the post-cure unit comprises:

controlling the directing of activating light from the plurality of light sources toward at least one of the mold members; and

controlling the application of heat from the plurality of light sources toward at least one of the mold members.

362. The method of claim 337, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, and wherein controlling the post-cure unit comprises controlling the plurality of activating light sources and the plurality of heat sources to produce the curing conditions for the eyeglass lens.

363. The method of claim 337, wherein the post-cure unit comprises one or more light sources and one or more access doors, and wherein controlling the post-cure unit comprises:

preventing the one or more light sources from emitting light when one or more of the access doors is opened.

364. The method of claim 337, further comprising:

5

determining curing conditions for a plurality of eyeglass lenses in response to analyzing the prescription information; and

10

wherein controlling the post-cure unit comprises controlling the post-cure unit such that the curing conditions for the plurality of eyeglass lenses are produced.

365. The method of claim 364, wherein controlling the post-cure unit is performed substantially concurrently for the plurality of eyeglass lenses.

15

366. The method of claim 337, further comprising:

controlling a coating unit, the coating unit being configured to produce a coating on at least one of the mold members or the eyeglass lens during use.

20

367. The method of claim 366, further comprising:

determining coating requirements for the eyeglass lens in response to user input; and

25

wherein controlling the coating unit comprises operating the coating unit such that the coating requirements are produced.



368. The method of claim 366, wherein the coating unit is a spin coating unit, and wherein controlling the coating unit comprises controlling the rotation of a lens holder, wherein the lens holder is configured to substantially secure the eyeglass lens during use.

5

369. The method of claim 368, wherein controlling the rotation of the lens holder comprises controlling a rotational speed of the lens holder.

370. The method of claim 366, wherein the coating unit comprises a light source, and wherein controlling the coating unit comprises controlling the light source.

10

371. The method of claim 370, wherein controlling the light source comprises controlling a duration of the light source.

372. The method of claim 366, wherein the coating unit comprises a light source and one or more access doors, and wherein controlling the coating unit comprises:

15

preventing the light source from emitting light when one or more of the access doors is opened.

20

373. The method of claim 366, wherein controlling the curing unit, controlling the post-cure unit, and controlling the coating unit are performed substantially concurrently.

374. The method of claim 337, wherein controlling the curing unit and controlling the post-cure unit are performed substantially concurrently.

25

375. The method of claim 337, further comprising:

altering the eyeglass prescription after receiving the prescription information.

376. The method of claim 337, further comprising:

5

storing the eyeglass prescription on a computer readable media.

377. The method of claim 337, further comprising:

10

displaying operating instructions on a display device for a user during a lens forming process.

15

378. A computer-implemented method for monitoring a device configured to cure a lens forming composition disposed in a mold assembly to produce an eyeglass lens from a prescription, the method comprising:

monitoring operating conditions for one or more components of the device;

20

detecting an operating error for one or more of the one or more components of the device; and

25

displaying a message on a display device coupled to the device, the message describing the operating error for the one or more of the one or more components of the device.

379. The method of claim 378, wherein the one or more components comprise a curing unit configured to cure at least a portion of the lens forming composition.

380. The method of claim 379,

wherein the curing unit comprises one or more lamps configured to produce activating light for curing the lens forming composition;

5

wherein monitoring the operating conditions for the one or more components of the device comprises monitoring a time of use for the one or more lamps comprised in the curing unit; and

10

wherein detecting the operating error comprises detecting that the time of use for one or more of the one or more lamps has exceeded a maximum time of use.

381. The method of claim 379,

15

wherein the curing unit comprises one or more lamps configured to produce activating light for curing the lens forming composition;

20

wherein monitoring the operating conditions for the one or more components of the device comprises monitoring an intensity of the light produced by the one or more lamps comprised in the curing unit; and

25

wherein detecting the operating error comprises detecting that the intensity of the light of one or more of the one or more lamps is outside an optimal light intensity range for the lamps.

382. The method of claim 379,

wherein the curing unit comprises one or more lamps configured to produce activating light for curing the lens forming composition;

5 wherein monitoring the operating conditions for the one or more components of the device comprises monitoring a current through the one or more lamps comprised in the curing unit; and

10 wherein detecting the operating error comprises detecting that the current through the one or more of the one or more lamps is outside an optimal current range for the lamps.

383. The method of claim 378, wherein the one or more components comprise a post-cure unit configured to substantially complete curing of the lens forming composition disposed in the mold assembly or a demolded lens.

15

384. The method of claim 383,

20 wherein the post-cure unit comprises one or more lamps configured to produce activating light for curing the lens forming composition disposed in the mold assembly or the demolded lens;

25

wherein monitoring the operating conditions for the one or more components of the device comprises monitoring a time of use for the one or more lamps comprised in the post-cure unit; and

wherein detecting the operating error comprises detecting that the time of use for one or more of the one or more lamps has exceeded a maximum time of use.

385. The method of claim 383,

5 wherein the post-cure unit comprises one or more lamps configured to produce activating light for curing the lens forming composition disposed in the mold assembly or the demolded lens;

10 wherein monitoring the operating conditions for the one or more components of the device comprises monitoring an intensity of the light produced by the one or more lamps comprised in the post-cure unit; and

15 wherein detecting the operating error comprises detecting that the intensity of the light of one or more of the one or more lamps is outside an optimal light intensity range for the lamps.

386. The method of claim 383,

20 wherein the post-cure unit comprises one or more lamps configured to produce activating light for curing the lens forming composition disposed in the mold assembly or the demolded lens;

25 wherein monitoring the operating conditions for the one or more components of the device comprises monitoring a current through the one or more lamps comprised in the post-cure unit; and

30 wherein detecting the operating error comprises detecting that the current through the one or more of the one or more lamps is outside an optimal current range for the lamps.

387. The method of claim 383,

wherein the post-cure unit comprises one or more heating units configured to produce heat for curing the lens forming composition disposed in the mold assembly or the demolded lens;

5

wherein monitoring the operating conditions for the one or more components of the device comprises monitoring a current through the one or more heating units comprised in the post-cure unit; and

10

wherein detecting the operating error comprises detecting that the current through the one or more of the one or more heating units is outside an optimal current range for the heating units.

15

388. The method of claim 378, wherein the one or more components comprise a coating unit configured to produce a coating on at least one of the mold or the eyeglass lens during use.

389. The method of claim 388,

20

wherein the coating unit comprises one or more lamps;

25

wherein monitoring the operating conditions for the one or more components of the device comprises monitoring a time of use for the one or more lamps comprised in the coating unit; and

wherein detecting the operating error comprises detecting that the time of use for one or more of the one or more lamps has exceeded a maximum time of use.

390. The method of claim 388,

wherein the coating unit comprises one or more lamps;

5

wherein monitoring the operating conditions for the one or more components of the device comprises monitoring an intensity of the light produced by the one or more lamps comprised in the coating unit; and

10

wherein detecting the operating error comprises detecting that the intensity of the light of one or more of the one or more lamps is outside an optimal light intensity range for the lamps.

391. The method of claim 388,

15

wherein the coating unit comprises one or more lamps;

wherein monitoring the operating conditions for the one or more components of the device comprises monitoring a current through the one or more lamps comprised in the coating unit; and

20

wherein detecting the operating error comprises detecting that the current through the one or more of the one or more lamps is outside an optimal current range for the lamps.

25

392. The method of claim 378, wherein the one or more components comprise:

a curing unit configured to cure at least a portion of the lens forming composition;

a post-cure unit configured to substantially complete curing of the eyeglass lens; and

5 a coating unit configured to produce a coating on at least one of the mold or the eyeglass lens during use.

393. The method of claim 378, further comprising:

10 monitoring maintenance schedules for one or more components of the device;

detecting that one or more of the one or more components are due for maintenance; and

15 displaying a message on a display device coupled to the device, the message describing the required maintenance for the one or more of the one or more components of the device.

20 394. The method of claim 378, wherein monitoring the operating conditions for a component comprises monitoring an operating parameter to determine if the operating parameter is within an optimal operating range for the component, and wherein an operating range error occurs when the operating parameter for the component is outside the optimal operating range for the component.

25 395. The method of claim 378, wherein detecting an operating error comprises detecting an operating range error for one or more of the one or more components of the device, and wherein an operating range error occurs when an operating



parameter for a component is outside an optimal operating range for the component.

5      396.    The method of claim 378, wherein the message displayed on the display device describes an operating range error for one or more of the one or more components of the device, and wherein an operating range error occurs when an operating parameter for a component is outside an optimal operating range for the component.

10     397.    A system comprising:

a device configured to cure a lens forming composition in a mold to produce an eyeglass lens from a prescription;

15           a controller computer coupled to the device; and

controller software executable on the controller computer, wherein the controller software is operable to:

20           receive prescription information, wherein the prescription information defines an eyeglass prescription;

analyze the prescription information; and

25           determine a front mold identification marking, a back mold identification marking, and a gasket identification marking of an appropriate front mold, back mold and gasket for producing the eyeglass lens in response to analyzing the prescription information;

wherein the front mold, the back mold and the gasket together are operable to produce a mold cavity, the mold cavity being configured to hold a lens forming composition which is curable to produce the eyeglass lens from the prescription, the front mold member comprising the front mold identification marking, the back mold member comprising the back mold identification marking, and the gasket member comprising the gasket identification marking.

398. The system of claim 397, wherein, in receiving the prescription information, the controller software is further operable to read the prescription information from a barcode.

399. The system of claim 397, further comprising:  
  
an input device operable by a user to enter prescription information;  
  
wherein, in receiving the prescription information, the controller software is further operable to:

receive the prescription information from the input device.

400. The system of claim 397, wherein the prescription information comprises a sphere power, a cylinder power, and a lens location.

401. The system of claim 400, further comprising:  
  
an information database;

wherein, in analyzing the prescription information, the controller software is further operable to:

correlate the sphere power, the cylinder power and the lens location to a record in the information database.

- 5    402.    The system of claim 401, wherein, in determining the front mold identification marking, the back mold identification marking, and the gasket identification marking, the controller software is further operable to:

10                read the front mold identification marking, the back mold identification marking, and the gasket identification marking from the record in the information database correlated with the sphere power, the cylinder power and the lens location.

- 15    403.    The system of claim 400, wherein the prescription information further comprises a monomer type and a lens type.

404.    The system of claim 397, wherein the prescription information comprises a sphere power, a cylinder power, an add power and a lens location.

- 20    405.    The system of claim 404, further comprising:

an information database;

25                wherein, in analyzing the prescription information, the controller software is further operable to:

correlate the sphere power, the cylinder power, the add power, and the lens location to a record in the information database.

406. The system of claim 405, wherein, in determining the front mold identification marking, the back mold identification marking, and the gasket identification marking, the controller software is further operable to:

5                   read the front mold identification marking, the back mold identification marking, and the gasket identification marking from the record in the information database correlated with the sphere power, the cylinder power, the add power, and the lens location.

10   407. The system of claim 404, wherein the prescription information further comprises a monomer type and a lens type.

408. The system of claim 397, wherein the front mold identification marking comprises an alphanumeric sequence, and wherein the back mold identification marking  
15                   comprises an alphanumeric sequence, and wherein the gasket identification marking comprises an alphanumeric sequence.

409. The system of claim 397, further comprising:

20                   a display device coupled to the device;

wherein the controller software is further operable to:

25                   display the front mold identification marking, the back mold identification marking, and the gasket identification marking on the display device subsequent to determining the front mold identification marking, the back mold identification marking, and the gasket identification marking.

410. The system of claim 397, wherein the controller software is further operable to:

determine a specific lens forming composition for producing the eyeglass lens in response to analyzing the prescription information.

5     411.    The system of claim 410, further comprising:

a display device coupled to the device;

wherein the controller software is further operable to:

10

display the specific lens forming composition on a display device subsequent to determining the specific lens forming composition.

15

412.    The system of claim 397, wherein the controller software is further operable to:

determine curing conditions for the eyeglass lens in response to analyzing the prescription information.

20

413.    The system of claim 397, wherein the controller software is further operable to:

determine a second front mold identification marking, a second back mold identification marking, and second a gasket identification marking of an appropriate second front mold, second back mold and second gasket for producing a second eyeglass lens in response to analyzing the prescription information

25

414.    The system of claim 397, wherein the device comprises:

a curing unit configured to cure at least a portion of the lens forming composition;

wherein the controller software is further operable to:

5

control the curing unit during the curing of at least a portion of the lens forming composition.

415. The system of claim 414, wherein the controller software is further operable to:

10

determine curing conditions for the eyeglass lens in response to analyzing the prescription information; and

wherein, in controlling the curing unit, the controller software is further operable to:

15

control the curing unit such that the curing conditions for the eyeglass lens are produced.

20 416. The system of claim 415, wherein the curing unit comprises a plurality of light sources, and wherein, in controlling the curing unit, the controller software is further operable to:

25

control the plurality of activating light sources to produce the curing conditions for the eyeglass lens.

417. The system of claim 414, wherein the curing unit is configured to cure at least a portion of the lens forming composition into the eyeglass lens by directing activating light toward the lens forming composition during use.

418. The system of claim 414, wherein, in controlling the curing unit, the controller software is further operable to:

5 control activating light directed toward the lens forming composition;

wherein the directing of the activating light toward the lens forming composition in the curing unit is effective to cure at least a portion of the lens forming composition into the eyeglass lens.

10

419. The system of claim 414, wherein, in controlling the curing unit, the controller software is further operable to:

15 monitor a dose of activating light transmitted to the lens forming composition; and

vary the intensity or duration of the activating light transmitted to the lens forming composition such that a predetermined dose is transmitted to the lens forming composition.

20

420. The system of claim 414, wherein the curing unit comprises a plurality of light sources, and wherein, in controlling the curing unit, the controller software is further operable to:

25 control each of the plurality of light sources independently.

421. The system of claim 414, wherein the curing unit comprises a plurality of light sources, and wherein one or more of the plurality of light sources are above the mold members and one or more of the plurality of light sources are below the

mold members, and wherein, in controlling the curing unit, the controller software is further operable to:

5                   control the directing of activating light from the plurality of light sources toward at least one of the mold members.

422.   The system of claim 414, wherein the curing unit comprises one or more light sources and one or more access doors, and wherein, in controlling the curing unit, the controller software is further operable to:

10                   prevent the one or more light sources from emitting light when one or more of the access doors is opened.

423.   The system of claim 414, wherein the controller software is further operable to:

15                   determine curing conditions for a plurality of eyeglass lenses in response to analyzing the prescription information; and

20                   wherein, in controlling the curing unit, the controller software is further operable to:

                  control the curing unit such that the curing conditions for the plurality of eyeglass lenses are produced.

25   424.   The system of claim 423, wherein the controller software is further operable to:

                  control the curing unit substantially concurrently for the plurality of eyeglass lenses.



425. The system of claim 397, further comprising:

a post-cure unit configured to substantially complete curing of the eyeglass lens;

5

wherein the controller software is further operable to:

control the post-cure unit during the substantially completing of the curing of the eyeglass lens.

10

426. The system of claim 425, wherein the controller software is further operable to:

determine curing conditions for the eyeglass lens in response to analyzing the prescription information; and

15

wherein, in controlling the post-cure unit, wherein the controller software is further operable to:

operate the post-cure unit such that the curing conditions are produced.

20

427. The system of claim 426, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, and wherein, in controlling the post-cure unit, the controller software is further operable to:

25

control the plurality of activating light sources and the plurality of heat sources to produce the curing conditions for the eyeglass lens.

428. The system of claim 425, wherein the post-cure unit is configured to apply heat and activating light to the lens forming composition disposed in a mold assembly

or a demolded lens to substantially complete curing of the eyeglass lens during use.

429. The system of claim 425, wherein, in controlling the post-cure unit, the controller software is further operable to:

control the application of heat and activating light to the lens forming composition disposed in a mold assembly or a demolded lens;

wherein the application of heat and activating light in the post-cure unit is effective to substantially complete curing of the eyeglass lens.

430. The system of claim 425, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, and wherein, in controlling the post-cure unit, the controller software is further operable to:

control each of the plurality of light sources and each of the plurality of heat sources independently.

431. The system of claim 425, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, and wherein one or more of the plurality of light sources are above the mold members and one or more of the plurality of light sources are below the mold members, and wherein one or more of the plurality of heat sources are above the mold members and one or more of the plurality of heat sources are below the mold members, and wherein, in controlling the post-cure unit, the controller software is further operable to:

control the directing of activating light from the plurality of light sources toward at least one of the mold members; and

control the application of heat from the plurality of light sources toward at least one of the mold members.

- 5     432.    The system of claim 397, wherein the post-cure unit comprises one or more light sources and one or more access doors, and wherein, in controlling the post-cure unit, the controller software is further operable to:

10                prevent the one or more light sources from emitting light when one or more of the access doors is opened.

433.    The system of claim 425, wherein the controller software is further operable to:

15                determine curing conditions for a plurality of eyeglass lenses in response to analyzing the prescription information; and

wherein, in controlling the post-cure unit, the controller software is further operable to:

20                control the post-cure unit such that the curing conditions for the plurality of eyeglass lenses are produced.

434.    The system of claim 433, wherein the controller software is further operable to:

25                control the post-cure unit substantially concurrently for the plurality of eyeglass lenses.

435.    The system of claim 397, further comprising:

a coating unit configured to produce a coating on at least one of the mold members or the eyeglass lens during use;

wherein the controller software is further operable to:

5

control the coating unit when producing the coating on the at least one of the mold or the eyeglass lens during use.

436. The system of claim 435, wherein the controller software is further operable to:

10

determine coating requirements for the eyeglass lens in response to user input; and

wherein, in controlling the coating unit, the controller software is further operable to:

15

operate the coating unit such that the coating requirements are produced.

437. The system of claim 435, wherein the coating unit is a spin coating unit, and wherein, in controlling the coating unit, the controller software is further operable to:

20

control the rotation of a lens holder, wherein the lens holder is configured to substantially secure the eyeglass lens during use.

25

438. The system of claim 437, wherein, in controlling the rotation of the lens holder, the controller software is further operable to:

control a rotational speed of the lens holder.

439. The system of claim 435, wherein the coating unit comprises a light source, and wherein, in controlling the coating unit, the controller software is further operable to:

5

control the light source.

440. The system of claim 439, wherein, in controlling the light source, the controller software is further operable to:

10

control a duration of the light source.

441. The system of claim 435, wherein the coating unit comprises a light source and one or more access doors, and wherein, in controlling the coating unit, the controller software is further operable to:

15

prevent the light source from emitting light when one or more of the access doors is opened.

20 442. The system of claim 397, further comprising:

a curing unit configured to cure the lens forming composition; and

a post-cure unit configured to substantially complete curing of the eyeglass lens;

25

wherein the controller software is further operable to:

control the curing unit during the curing of at least a portion of the lens forming composition; and

5 control the post-cure unit during the substantially completing of the curing of the eyeglass lens.

443. The system of claim 442, wherein the controller software is further operable to:

10 determine curing conditions for the eyeglass lens in response to analyzing the prescription information; and

wherein, in controlling the curing unit and the post-cure unit, the controller software is further operable to:

15 control the curing unit and the post-cure unit such that the curing conditions are produced.

444. The system of claim 442, wherein the controller software is further operable to:

20 control the curing unit and the post-cure unit substantially concurrently.

445. The system of claim 442, further comprising:

25 a coating unit configured to produce a coating on at least one of the mold members or the eyeglass lens during use.

wherein the controller software is further operable to:

control the coating unit when producing the coating on the at least one of the mold members or the eyeglass lens during use.

446. The system of claim 445, wherein the controller software is further operable to:

5

determine coating requirements for the eyeglass lens in response to analyzing the prescription information; and

wherein, in controlling the coating unit, the controller software is further operable to:

10

operate the coating unit such that the coating requirements are produced.

447. The system of claim 445, wherein, in controlling the curing unit, controlling the post-cure unit, and controlling the coating unit, the controller software is further operable to:

15

control the curing unit, control the post-cure unit, and control the coating unit substantially concurrently.

20

448. The system of claim 397, wherein the controller software is further operable to:

alter the eyeglass prescription after receiving the prescription information.

25 449. The system of claim 397, further comprising:

a computer readable media coupled to the device;

wherein the controller software is further operable to:

store the eyeglass prescription on the computer readable media.

450. The system of claim 397, further comprising:

5

a display device coupled to the device;

wherein the controller software is further operable to:

10

display operating instructions for a user of the device on the display device during a lens forming process.

15

451. A system comprising:

a device configured to cure a lens forming composition in a mold to produce an eyeglass lens from a prescription, the device comprising:

20

a curing unit configured to cure the lens forming composition; and

a post-cure unit configured to substantially complete curing of the eyeglass lens;

25

a controller computer coupled to the device; and

controller software executable on the controller computer, wherein the controller software is operable to:



receive prescription information, wherein the prescription information defines an eyeglass prescription;

analyze the prescription information;

5

determine curing conditions for the eyeglass lens in response to analyzing the prescription information;

10

control the curing unit during the curing of at least a portion of the lens forming composition; and

control the post-cure unit during the substantially completing of the curing of the eyeglass lens.

15 452. The system of claim 451, wherein, in controlling the curing unit and the post-cure unit, the controller software is further operable to control the curing unit and the post-cure unit such that the curing conditions are produced to cure the lens forming composition to produce the eyeglass lens from the prescription.

20 453. The system of claim 451, wherein, in receiving the prescription information, the controller software is further operable to read the prescription information from a barcode.

454. The system of claim 451, further comprising:

25

an input device operable by a user to enter prescription information;

wherein, in receiving the prescription information, the controller software is further operable to:

receive the prescription information from the input device.

5 455. The system of claim 451, wherein the prescription information comprises a sphere power, a cylinder power, and a lens location.

456. The system of claim 455, further comprising:

an information database;

10

wherein, in analyzing the prescription information, the controller software is further operable to:

15

correlate the sphere power, the cylinder power and the lens location to a record in the information database.

20

457. The system of claim 456, wherein, in determining the front mold identification marking, the back mold identification marking, and the gasket identification marking, the controller software is further operable to:

25

read the front mold identification marking, the back mold identification marking, and the gasket identification marking from the record in the information database correlated with the sphere power, the cylinder power and the lens location.

458. The system of claim 455, wherein the prescription information further comprises a monomer type and a lens type.

459. The system of claim 451, wherein the prescription information comprises a sphere power, a cylinder power, an add power and a lens location.

460. The system of claim 459, further comprising:

5

an information database;

wherein, in analyzing the prescription information, the controller software is further operable to:

10

correlate the sphere power, the cylinder power, the add power, and the lens location to a record in the information database.

15

461. The system of claim 460, wherein, in determining the front mold identification marking, the back mold identification marking, and the gasket identification marking, the controller software is further operable to:

20

read the front mold identification marking, the back mold identification marking, and the gasket identification marking from the record in the information database correlated with the sphere power, the cylinder power, the add power, and the lens location.

25

462. The system of claim 459, wherein the prescription information further comprises a monomer type and a lens type.

463. The system of claim 451, wherein the curing unit is configured to cure at least a portion of the lens forming composition into the eyeglass lens by directing activating light toward the lens forming composition during use.

464. The system of claim 451, wherein, in controlling the curing unit, the controller software is further operable to:

control activating light directed toward the lens forming composition;

5

wherein the directing of the activating light toward the lens forming composition in the curing unit is effective to cure at least a portion of the lens forming composition into the eyeglass lens.

10 465. The system of claim 451, wherein the prescription information comprises a cylinder power, and wherein the controller software is further operable to:

transpose a positive cylinder power to a negative cylinder power.

15 466. The system of claim 451, wherein, in controlling the curing unit, the controller software is further operable to:

monitor a dose of activating light transmitted to the lens forming composition; and

20

vary the intensity or duration of the activating light transmitted to the lens forming composition such that a predetermined dose is transmitted to the lens forming composition.

25 467. The system of claim 451, wherein the curing unit comprises a plurality of light sources, and wherein, in controlling the curing unit, the controller software is further operable to:

control each of the plurality of light sources independently.

468. The system of claim 451, wherein the curing unit comprises a plurality of light sources, and wherein one or more of the plurality of light sources are above the mold members and one or more of the plurality of light sources are below the mold members, and wherein, in controlling the curing unit, the controller software is further operable to:

control the directing of activating light from the plurality of light sources toward at least one of the mold members.

10

469. The system of claim 451, wherein the curing unit comprises a plurality of light sources, and wherein, in controlling the curing unit, the controller software is further operable to:

15 control the activating light sources to produce the curing conditions for the eyeglass lens.

470. The system of claim 451, wherein the curing unit comprises one or more light sources and one or more access doors, and wherein, in controlling the curing unit, the controller software is further operable to:

20

prevent the one or more light sources from emitting light when one or more of the access doors is opened.

25 471. The system of claim 451, wherein the controller software is further operable to:

determine curing conditions for a plurality of eyeglass lenses in response to analyzing the prescription information; and

wherein, in controlling the curing unit, the controller software is further operable to:

5                   control the curing unit such that the curing conditions for the plurality of  
                  eyeglass lenses are produced.

472.   The system of claim 471, wherein the controller software is further operable to:

10                   control the curing unit substantially concurrently for the plurality of  
                  eyeglass lenses.

473.   The system of claim 451, wherein the post-cure unit is configured to apply heat  
and activating light to the lens forming composition disposed in a mold assembly  
or a demolded lens to substantially complete curing of the eyeglass lens during  
15                   use.

474.   The system of claim 451, wherein, in controlling the post-cure unit, the controller  
software is further operable to:

20                   control the application of heat and activating light to the lens forming  
                  composition disposed in a mold assembly or a demolded lens;

                  wherein the application of heat and activating light in the post-cure unit is  
effective to substantially complete curing of the eyeglass lens.

25

475.   The system of claim 451, wherein the post-cure unit comprises a plurality of light  
sources and a plurality of heat sources, and wherein, in controlling the post-cure  
unit, the controller software is further operable to:

control each of the plurality of light sources and each of the plurality of heat sources independently.

5 476. The system of claim 451, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, and wherein one or more of the plurality of light sources are above the mold members and one or more of the plurality of light sources are below the mold members, and wherein one or more of the plurality of heat sources are above the mold members and one or more of the plurality of heat sources are below the mold members, and wherein, in controlling the post-cure unit, the controller software is further operable to:

control the directing of activating light from the plurality of light sources toward at least one of the mold members; and

15 control the application of heat from the plurality of light sources toward at least one of the mold members.

20 477. The system of claim 451, wherein the post-cure unit comprises a plurality of light sources and a plurality of heat sources, and wherein, in controlling the post-cure unit, the controller software is further operable to:

control the plurality of activating light sources and the plurality of heat sources to produce the curing conditions for the eyeglass lens.

25 478. The system of claim 451, wherein the post-cure unit comprises one or more light sources and one or more access doors, and wherein, in controlling the post-cure unit, the controller software is further operable to:

prevent the one or more light sources from emitting light when one or more of the access doors is opened.

479. The system of claim 451, wherein the controller software is further operable to:

5

determine curing conditions for a plurality of eyeglass lenses in response to analyzing the prescription information; and

10

wherein, in controlling the post-cure unit, the controller software is further operable to:

control the post-cure unit such that the curing conditions for the plurality of eyeglass lenses are produced.

15

480. The system of claim 479, wherein the controller software is further operable to:

control the post-cure unit substantially concurrently for the plurality of eyeglass lenses.

20

481. The system of claim 451, further comprising:

a coating unit configured to produce a coating on at least one of the mold members or the eyeglass lens during use;

25

wherein the controller software is further operable to:

control the coating unit when producing the coating on the at least one of the mold or the eyeglass lens during use.



482. The system of claim 481, wherein the controller software is further operable to:

determine coating requirements for the eyeglass lens in response to user input; and

5

wherein, in controlling the coating unit, the controller software is further operable to:

operate the coating unit such that the coating requirements are produced.

10

483. The system of claim 481, wherein the coating unit is a spin coating unit, and wherein, in controlling the coating unit, the controller software is further operable to:

15

control the rotation of a lens holder, wherein the lens holder is configured to substantially secure the eyeglass lens during use.

484. The system of claim 483, wherein, in controlling the rotation of the lens holder, the controller software is further operable to:

20

control a rotational speed of the lens holder.

485. The system of claim 481, wherein the coating unit comprises a light source, and wherein, in controlling the coating unit, the controller software is further operable to:

25

control the light source.

486. The system of claim 485, wherein, in controlling the light source, the controller software is further operable to:

control a duration of the light source.

5

487. The system of claim 481, wherein the coating unit comprises a light source and one or more access doors, and wherein, in controlling the coating unit, the controller software is further operable to:

10

prevent the light source from emitting light when one or more of the access doors is opened.

15

488. The system of claim 481, wherein, in controlling the curing unit, controlling the post-cure unit, and controlling the coating unit, the controller software is further operable to:

control the curing unit, control the post-cure unit, and control the coating unit substantially concurrently.

20

489. The system of claim 451, wherein the controller software is further operable to:

control the curing unit and the post-cure unit substantially concurrently.

25

490. The system of claim 451, further comprising:

a display device coupled to the device;

wherein the controller software is further operable to:

display operating instructions for a user of the device on the display device during a lens forming process.

491. A system comprising:

5

a device configured to cure a lens forming composition disposed in a mold assembly to produce an eyeglass lens from a prescription, wherein the device comprises one or more components;

10

a display device coupled to the device;

a controller computer coupled to the device; and

15

controller software executable on the controller computer, wherein the controller software is operable to:

monitor operating conditions for the one or more components of the device;

20

detect an operating error for one or more of the one or more components of the device; and

25

display a message on the display device, the message describing the operating error for the one or more of the one or more components of the device.

492. The method of claim 491, wherein the one or more components comprise a curing unit configured to cure at least a portion of the lens forming composition.

493. The system of claim 492,

wherein the curing unit comprises one or more lamps configured to  
produce activating light for curing the lens forming composition;

5

wherein, in monitoring the operating conditions for the one or more  
components of the device, the controller software is further operable to:

10

monitor a time of use for the one or more lamps comprised in the  
curing unit; and

wherein, in detecting the operating error, the controller software is further  
operable to:

15

detect that the time of use for one or more of the one or more  
lamps has exceeded a maximum time of use.

494. The system of claim 492,

20

wherein the curing unit comprises one or more lamps configured to  
produce activating light for curing the lens forming composition;

wherein, in monitoring the operating conditions for the one or more  
components of the device, the controller software is further operable to:

25

monitor an intensity of the light produced by the one or more  
lamps comprised in the curing unit; and

wherein, in detecting the operating error, the controller software is further operable to:

5 detect that the intensity of the light of one or more of the one or more lamps is outside an optimal light intensity range for the lamps.

495. The system of claim 492,

10 wherein the curing unit comprises one or more lamps configured to produce activating light for curing the lens forming composition;

wherein, in monitoring the operating conditions for the one or more components of the device, the controller software is further operable to:

15 monitor a current through the one or more lamps comprised in the curing unit; and

20 wherein, in detecting the operating error, the controller software is further operable to:

detect that the current through the one or more of the one or more lamps is outside an optimal current range for the lamps.

25 496. The system of claim 491, wherein the one or more components comprise a post-cure unit configured to substantially complete curing of the lens forming composition disposed in the mold assembly or a demolded lens.

497. The system of claim 496,

wherein the post-cure unit comprises one or more lamps configured to produce activating light for curing the lens forming composition disposed in the mold assembly or the demolded lens;

5

wherein, in monitoring the operating conditions for the one or more components of the device, the controller software is further operable to:

10

monitor a time of use for the one or more lamps comprised in the post-cure unit; and

wherein, in detecting the operating error, the controller software is further operable to:

15

detect that the time of use for one or more of the one or more lamps has exceeded a maximum time of use.

498. The system of claim 496,

20

wherein the post-cure unit comprises one or more lamps configured to produce activating light for curing the lens forming composition disposed in the mold assembly or the demolded lens;

25

wherein, in monitoring the operating conditions for the one or more components of the device, the controller software is further operable to:

monitor an intensity of the light produced by the one or more lamps comprised in the post-cure unit; and

wherein, in detecting the operating error, the controller software is further operable to:

5 detect that the intensity of the light of one or more of the one or more lamps is outside an optimal light intensity range for the lamps.

499. The system of claim 496,

10 wherein the post-cure unit comprises one or more lamps configured to produce activating light for curing the lens forming composition disposed in the mold assembly or the demolded lens;

15 wherein, in monitoring the operating conditions for the one or more components of the device, the controller software is further operable to:

monitor a current through the one or more lamps comprised in the post-cure unit; and

20 wherein, in detecting the operating error, the controller software is further operable to:

25 detect that the current through the one or more of the one or more lamps is outside an optimal current range for the lamps.

500. The system of claim 496,

wherein the post-cure unit comprises one or more heating units configured to produce heat for curing the lens forming composition disposed in the mold assembly or the demolded lens;

5 wherein, in monitoring the operating conditions for the one or more components of the device, the controller software is further operable to:

monitor a current through the one or more heating units comprised in the post-cure unit; and

10 wherein, in detecting the operating error, the controller software is further operable to:

15 detect that the current through the one or more of the one or more heating units is outside an optimal current range for the heating units.

20 501. The system of claim 491, wherein the one or more components comprise a coating unit configured to produce a coating on at least one of the mold or the eyeglass lens during use.

502. The system of claim 501,

25 wherein the coating unit comprises one or more lamps;

wherein, in monitoring the operating conditions for the one or more components of the device, the controller software is further operable to:



monitor a time of use for the one or more lamps comprised in the coating unit; and

wherein, in detecting the operating error, the controller software is further operable to:

detect that the time of use for one or more of the one or more lamps has exceeded a maximum time of use.

5 503. The system of claim 501,

wherein the coating unit comprises one or more lamps;

wherein, in monitoring the operating conditions for the one or more components of the device, the controller software is further operable to:

monitor an intensity of the light produced by the one or more lamps comprised in the coating unit; and

20 wherein, in detecting the operating error, the controller software is further operable to:

detect that the intensity of the light of one or more of the one or more lamps is outside an optimal light intensity range for the lamps.

25 504. The system of claim 501,

wherein the coating unit comprises one or more lamps;

wherein, in monitoring the operating conditions for the one or more components of the device, the controller software is further operable to:

5                   monitor a current through the one or more lamps comprised in the coating unit; and

wherein, in detecting the operating error, the controller software is further operable to:

10                   detect that the current through the one or more of the one or more lamps is outside an optimal current range for the lamps.

505.   The system of claim 491, wherein the one or more components comprise:

15                   a curing unit configured to cure at least a portion of the lens forming composition;

                  a post-cure unit configured to substantially complete curing of the eyeglass lens; and

20                   a coating unit configured to produce a coating on at least one of the mold or the eyeglass lens during use.

25   506.   The system of claim 491, wherein the controller software is further operable to:

                  monitoring maintenance schedules for one or more components of the device;

detecting that one or more of the one or more components are due for maintenance; and

5 displaying a message on a display device coupled to the device, the message describing the required maintenance for the one or more of the one or more components of the device.

507. The system of claim 491, wherein, in monitoring the operating conditions for a component, the controller software is further operable to:

10 monitor an operating parameter to determine if the operating parameter is within an optimal operating range for the component; and

15 wherein an operating range error occurs when the operating parameter for the component is outside the optimal operating range for the component.

508. The system of claim 491, wherein, in detecting an operating error, the controller software is further operable to:

20 detect an operating range error for one or more of the one or more components of the device; and

25 wherein an operating range error occurs when an operating parameter for a component is outside an optimal operating range for the component.

509. The system of claim 491, wherein the message displayed on the display device describes an operating range error for one or more of the one or more components of the device, and wherein an operating range error occurs when an operating

parameter for a component is outside an optimal operating range for the component.

510. A method for forming an at least partially antireflective coating on a visible light-transmitting substrate, comprising:

applying a first composition to at least one surface of the visible light-transmitting substrate to form a first coating layer, the first composition comprising a first metal alkoxide;

applying a second composition to the first coating layer, the second composition comprising an initiator and an ethylenically substituted monomer, wherein the second composition is curable by the application of ultraviolet light; and

directing ultraviolet light toward the second composition, wherein the ultraviolet light initiates curing of the second composition to form a second coating layer.

511. The method of claim 510, wherein the first composition is curable by the application of ultraviolet light.

512. The method of claim 510, further comprising directing ultraviolet light toward the first composition, wherein the ultraviolet light initiates curing of the first composition to form the first coating layer.

513. The method of claim 510, further comprising heating the first composition, wherein heating the first composition initiates curing of the first composition to form the first coating layer.

514. The method of claim 510, wherein the first coating layer has an index of refraction that is greater than an index of refraction of the visible light-transmitting substrate.

5 515. The method of claim 510, wherein the second coating layer has an index of refraction that is less than an index of refraction of the first coating layer.

516. The method of claim 510, wherein the first coating layer has an index of refraction that is greater than an index of refraction of the visible light-transmitting substrate, and  
10 wherein the second coating layer has an index of refraction that is less than an index of refraction of the first coating layer.

517. The method of claim 510, wherein the initiator comprises a second metal alkoxide.

15

518. The method of claim 517, wherein the first and second metal alkoxides have the general formula  $M(Y)_p$  wherein M is titanium, aluminum, zirconium, boron, tin, indium, antimony, or zinc, Y is a  $C_1$ - $C_{10}$  alkoxy or acetylacetonate, and p is an integer equivalent to the valence of M.

20

519. The method of claim 517, wherein the first and second metal alkoxides have the general formula  $Ti(OR)_4$ , where R is a  $C_1$ - $C_{10}$  alkyl.

520. The method of claim 517, wherein the first and second metal alkoxides comprise  
25 titanium methoxide, titanium ethoxide, titanium isopropoxide, titanium butoxide, or titanium allylacetoacetate triisopropoxide.

521. The method of claim 517, wherein the first composition further comprises a photoinitiator.

522. The method of claim 510, wherein the first composition further comprises colloidal silica.

5 523. The method of claim 510, wherein the visible light-transmitting substrate is a plastic lens.

524. The method of claim 510, wherein the visible light transmitting substrate is a glass lens.

10

525. The method of claim 510, wherein the first composition further comprises a coinitiator.

15 526. The method of claim 510, wherein the first composition further comprises an ethylenically substituted monomer.

527. The method of claim 510, wherein the first composition further comprises an organic solvent.

20 528. The method of claim 510, wherein the second composition comprises a silane monomer.

529. The method of claim 510, wherein the second composition comprises a fluoroacrylate.

25

530. The method of claim 510, wherein the initiator comprises a second metal alkoxide, and wherein the second metal alkoxide comprises a titanium alkoxide and an aluminum alkoxide.

531. The method of claim 510, wherein the second composition further comprises a photoinitiator.
532. The method of claim 510, wherein the ethylenically substituted monomer  
5 comprises dipentaerythritol tetracrylate.
533. The method of claim 510, wherein the second composition further comprises an organic solvent.
- 10 534. The method of claim 510, further comprising forming a hardcoat layer on the surface of the visible light-transmitting substrate prior to applying the first composition to the surface of the visible light-transmitting substrate.
535. The method of claim 534, wherein forming a hardcoat layer on the surface of the  
15 visible light-transmitting substrate comprises:
- applying an ultraviolet light curable hardcoat composition to the surface of the visible light-transmitting substrate; and
- 20 directing ultraviolet light toward the hardcoat composition, wherein the ultraviolet light initiates curing of the hardcoat composition to form the hardcoat layer.
536. The method of claim 535, wherein applying the hardcoat composition to the surface of the visible light-transmitting substrate comprises rotating the visible light-  
25 transmitting substrate while directing the hardcoat composition toward the lens.
537. The method of claim 510, wherein applying the first composition comprises directing the first composition toward the visible light-transmitting substrate while rotating the visible light-transmitting substrate.

538. The method of claim 510, wherein applying the second composition comprises directing the second composition toward the visible light-transmitting substrate while rotating the visible light-transmitting substrate.

5

539. The method of claim 510, wherein ultraviolet light is directed toward the second composition for a time of less than about 90 seconds.

540. The method of claim 510, wherein ultraviolet light is directed toward the second composition for a time of less than about 90 seconds.

10

541. The method of claim 510, further comprising heating the visible light-transmitting substrate at a temperature of between about 40 °C and about 140 °C for a time of less than about 10 minutes.

15

542. The method of claim 510, wherein applying the first composition to the visible light-transmitting substrate comprises:

applying a first portion of the first composition to the visible light-transmitting substrate;

20

drying the first portion of the first composition;

applying a second portion of the first composition to the dried first portion; and

25

drying the second portion of the first composition.

543. The method of claim 510, wherein the ultraviolet light is produced by a germicidal lamp.



544. The method of claim 510, wherein the ultraviolet light is produced by a flash lamp.

5 545. The method of claim 510, further comprising forming a hardcoat layer upon the surface of the visible light transmitting substrate prior to forming the first coating layer.

546. The method of claim 510, wherein the first composition is applied to a front surface of the visible light-transmitting substrate.

10

547. The method of claim 510, wherein the first composition is applied to a back surface of the visible light-transmitting substrate.

548. The method of claim 510, wherein the first composition is applied to a front  
15 surface and a back surface of the visible light-transmitting substrate.

549. The method of claim 510, wherein a thickness of the first coating layer and the second coating layer, combined, is less than about 500 nm.

20 550. The method of claim 510, wherein the antireflective coating is formed in less than about 10 min.

551. A method for forming a plastic lens, comprising:

25

applying a second composition to a casting face of a first mold member,  
the second composition comprising a first photoinitiator and an  
ethylenically substituted monomer, wherein the second composition is  
curable by the application of ultraviolet light;

directing ultraviolet light toward the second composition, wherein the ultraviolet light initiates curing of the second composition to form a second coating layer;

5           applying a first composition to the second coating layer to form a first coating layer, the first composition comprising a metal alkoxide;

          assembling a mold assembly, the mold assembly comprising the first mold member and a second mold member, wherein the first mold member and  
10           the second mold member together define a mold cavity;

          placing a liquid lens forming composition in the mold cavity, the liquid lens forming composition comprising a monomer composition and a  
15           second photoinitiator;

          directing activating light toward the mold cavity; and

          demolding the formed lens from the mold cavity, wherein the first and second coating layers are transferred to an outer surface of the formed lens.  
20

552.   The method of claim 551, wherein the first composition is curable by the application of ultraviolet light.

553.   The method of claim 551, further comprising directing ultraviolet light toward the  
25   first composition, wherein the ultraviolet light initiates curing of the first composition to form the first coating layer.

554. The method of claim 551, further comprising heating the first composition, wherein heating the first composition initiates curing of the first composition to form the first coating layer.

5 555. The method of claim 551, wherein the first coating layer has an index of refraction that is greater than an index of refraction of the plastic eyeglass lens.

556. The method of claim 551, wherein the second coating layer has an index of refraction that is less than an index of refraction of the first coating layer.

10

557. The method of claim 551, wherein the first coating layer has an index of refraction that is greater than an index of refraction of the plastic eyeglass lens, and wherein the second coating layer has an index of refraction that is less than an index of refraction of the first coating layer.

15

558. The method of claim 551, wherein the metal alkoxide has the general formula  $M(Y)_p$  wherein M is titanium, aluminum, zirconium, boron, tin, indium, antimony, or zinc, Y is a  $C_1$ - $C_{10}$  alkoxy or acetylacetonate, and p is an integer equivalent to the valence of M.

20

559. The method of claim 551, wherein the metal alkoxide has the general formula  $Ti(OR)_4$ , where R is a  $C_1$ - $C_{10}$  alkyl.

560. The method of claim 551, wherein the metal alkoxide comprises titanium  
25 methoxide, titanium ethoxide, titanium isopropoxide, titanium allylacetoacetate triisopropoxide, or titanium butoxide.

561. The method of claim 551, wherein the first composition further comprises a photoinitiator.

562. The method of claim 551, wherein the first composition further comprises colloidal silica.

5 563. The method of claim 551, wherein the metal alkoxide comprises a mixture of a titanium alkoxide and a zirconium alkoxide.

564. The method of claim 551, wherein the metal alkoxide comprises a mixture of a titanium alkoxide and an aluminum alkoxide.

10

565. The method of claim 551, wherein the first composition further comprises a coinitiator.

566. The method of claim 551, wherein the first composition further comprises an  
15 ethylenically substituted monomer.

567. The method of claim 551, wherein the first composition further comprises an organic solvent.

20 568. The method of claim 551, wherein the second composition further comprises an organic solvent.

569. The method of claim 551, wherein the second composition comprises a  
fluoroacrylate.

25

570. The method of claim 551, wherein the ethylenically substituted monomer comprises dipentaerythritol tetracrylate.

571. The method of claim 551, further comprising forming an adhesion layer on the surface of the first coating layer prior to placing the polymerizable lens forming composition into the mold cavity.
- 5 572. The method of claim 551, wherein applying the first composition comprises directing the first composition toward the first mold while rotating the first mold.
573. The method of claim 551, wherein applying the second composition comprises directing the second composition toward the first mold while rotating the first mold.
- 10 574. The method of claim 551, wherein applying the first composition to the second coating layer comprises:
- applying a first portion of the first composition to the second coating layer;
- 15 drying the first portion of the first composition;
- applying a second portion of the first composition to the dried first portion; and
- 20 drying the second portion of the first composition.
575. The method of claim 551, wherein the first mold is used to cast a front surface of the plastic lens.
- 25 576. The method of claim 551, wherein the first mold is used to cast a back surface of the plastic lens.
577. The method of claim 551, further comprising:

applying the second composition to a casting face of the second mold member;

5 directing ultraviolet light toward the second composition on the second mold member, wherein the ultraviolet light initiates curing of the second composition to form a second coating layer on the second mold member;

applying a first composition to the second coating layer of the second mold member to form a first coating layer, the first composition comprising a  
10 metal alkoxide;

578. The method of claim 551, wherein the monomer composition comprises at least one polyethylenic-functional monomer containing two ethylenically unsaturated groups selected from acrylyl and methacrylyl.  
15

579. The method of claim 551, wherein the monomer composition comprises an aromatic containing polyethylenic polyether functional monomer.

580. The method of claim 551, wherein the lens forming composition further  
20 comprises a co-initiator composition, wherein the co-initiator composition comprises an amine.

581. The method of claim 551, wherein the lens forming composition further comprises a co-initiator composition, wherein the co-initiator composition comprises an  
25 acrylated amine.

582. The method of claim 551, wherein the second photoinitiator comprises bis(2,6-dimethoxybenzoyl)-(2,4,4-trimethylphenyl)phosphine oxide.

583. The method of claim 551, wherein the lens forming composition further comprises an activating light absorbing compound.

584. The method of claim 551, wherein the lens forming composition further  
5 comprises a photochromic compound.

585. The method of claim 551, wherein the lens forming composition further comprises an ultraviolet light absorbing compound.

10 586. The method of claim 551, wherein the first coating layer and the second coating layer, combined, have a thickness of less than about 500 nm.

587. The method of claim 551, wherein the first and second coating layers are formed  
15 in a time of less than about 10 minutes.

588. A plastic eyeglass lens comprising an at least partially antireflective coating,  
formed by the method, comprising:

20 applying a first composition to at least one surface of a non-coated plastic eyeglass lens to form a first coating layer, the first composition comprising a first metal alkoxide;

25 applying a second composition to the first coating layer, the second composition comprising an initiator and an ethylenically substituted monomer, wherein the second composition is curable by the application of ultraviolet light; and

directing ultraviolet light toward the second composition, wherein the ultraviolet light initiates curing of the second composition to form a second coating layer.

5 589. The eyeglass lens of claim 588, wherein the first composition is curable by the application of ultraviolet light.

590. The eyeglass lens of claim 588, wherein the method further comprises directing ultraviolet light toward the first composition, wherein the ultraviolet light initiates curing  
10 of the first composition to form the first coating layer.

591. The eyeglass lens of claim 588, wherein the method further comprises heating the first composition, wherein heating the first composition initiates curing of the first composition to form the first coating layer.  
15

592. The eyeglass lens of claim 588, wherein the first coating layer has an index of refraction that is greater than an index of refraction of the plastic eyeglass lens.

593. The eyeglass lens of claim 588, wherein the second coating layer has an index of refraction that is less than an index of refraction of the first coating layer.  
20

594. The eyeglass lens of claim 588, wherein the first coating layer has an index of refraction that is greater than an index of refraction of the plastic eyeglass lens, and wherein the second coating layer has an index of refraction that is less than an index of refraction of the first coating layer.  
25

595. The eyeglass lens of claim 588, wherein the initiator comprises a second metal alkoxide.



596. The eyeglass lens of claim 595, wherein the first and second metal alkoxides have the general formula  $M(Y)_p$  wherein M is titanium, aluminum, zirconium, boron, tin, indium, antimony, or zinc, Y is a  $C_1$ - $C_{10}$  alkoxy or acetylacetonate, and p is an integer equivalent to the valence of M.

5

597. The eyeglass lens of claim 596, wherein the first and second metal alkoxides have the general formula  $Ti(OR)_4$ , where R is a  $C_1$ - $C_{10}$  alkyl.

598. The eyeglass lens of claim 596, wherein the first and second metal alkoxides  
10 comprise titanium methoxide, titanium ethoxide, titanium isopropoxide, titanium allylacetoacetate triisopropoxide, or titanium butoxide.

599. The eyeglass lens of claim 588, wherein the first composition further comprises a photoinitiator.

15

600. The eyeglass lens of claim 588, wherein the first composition further comprises colloidal silica.

601. The eyeglass lens of claim 588, wherein the first metal alkoxide comprises a  
20 mixture of a titanium alkoxide and a zirconium alkoxide.

602. The eyeglass lens of claim 588, wherein the first metal alkoxide comprises a mixture of a titanium alkoxide and an aluminum alkoxide.

25 603. The eyeglass lens of claim 588, wherein the first composition further comprises a coinitiator.

604. The eyeglass lens of claim 588, wherein the first composition further comprises an ethylenically substituted monomer.

605. The eyeglass lens of claim 588, wherein the second composition comprises a silane monomer.
- 5 606. The eyeglass lens of claim 588, wherein the second composition comprises a fluoroacrylate.
607. The eyeglass lens of claim 588, wherein the initiator comprises a second metal alkoxide, and wherein the second metal alkoxide comprises a titanium alkoxide and an  
10 aluminum alkoxide.
608. The eyeglass lens of claim 588, wherein the second composition further comprises a photoinitiator.
- 15 609. The eyeglass lens of claim 588, wherein the ethylenically substituted monomer comprises dipentaerythritol tetracrylate.
610. The eyeglass lens of claim 588, wherein the method further comprises forming a hardcoat layer on the surface of the plastic lens prior to applying the first composition to  
20 the surface of the plastic lens.
611. The eyeglass lens of claim 610, wherein forming a hardcoat layer on the surface of the plastic lens comprises:
- 25 applying an ultraviolet light curable hardcoat composition to the surface of the plastic lens; and
- directing ultraviolet light toward the hardcoat composition, wherein the ultraviolet light initiates curing of the hardcoat composition to form the hardcoat layer.

612. The eyeglass lens of claim 611, wherein applying the hardcoat composition to the surface of the plastic lens comprises rotating the plastic lens while directing the hardcoat composition toward the lens.

5

613. The eyeglass lens of claim 588, wherein applying the first composition comprises directing the first composition toward the plastic lens while rotating the plastic lens.

614. The eyeglass lens of claim 588, wherein applying the second composition  
10 comprises directing the second composition toward the plastic lens while rotating the plastic lens.

615. The eyeglass lens of claim 588, wherein ultraviolet light is directed toward the first composition for a time of less than about 90 seconds.

15

616. The eyeglass lens of claim 588, wherein ultraviolet light is directed toward the second composition for a time of less than about 90 seconds.

617. The eyeglass lens of claim 588, the method further comprises heating the plastic  
20 lens at a temperature of greater than about 100 °C for a time of less than about 10 minutes.

618. The eyeglass lens of claim 588, wherein applying the first composition to the plastic lens comprises:

25

applying a first portion of the first composition to the plastic lens;

drying the first portion of the first composition;

applying a second portion of the first composition to the dried first portion; and  
drying the second portion of the first composition.

5 619. The eyeglass lens of claim 588, wherein the ultraviolet light is produced by a germicidal lamp.

620. The eyeglass lens of claim 588, wherein the ultraviolet light is produced by a flash lamp.

10

621. The eyeglass lens of claim 588, wherein the first composition is applied to a front surface of the plastic lens.

15 622. The eyeglass lens of claim 588, wherein the first composition is applied to a back surface of the plastic lens.

623. The eyeglass lens of claim 588, wherein the first composition is applied to a front surface and a back surface of the plastic lens.

20 624. An eyeglass lens made by the method, comprising:

25 applying a second composition to a casting face of a first mold member,  
the second composition comprising a first photoinitiator and an  
ethylenically substituted monomer, wherein the second composition is  
curable by the application of ultraviolet light;

directing ultraviolet light toward the second composition, wherein the  
ultraviolet light initiates curing of the second composition to form a  
second coating layer;

applying a first composition to the second coating layer to form a first coating layer, the first composition comprising a metal alkoxide;

5 assembling a mold assembly, the mold assembly comprising the first mold member and a second mold member, wherein the first mold member and the second mold member together define a mold cavity;

10 placing a liquid lens forming composition in the mold cavity, the liquid lens forming composition comprising a monomer composition and a second photoinitiator;

directing activating light toward the mold cavity; and

15 demolding the formed lens from the mold cavity, wherein the first and second coating layers are transferred to an outer surface of the formed lens.

625. The eyeglass lens of claim 624, wherein the first composition is curable by the application of ultraviolet light.

20

626. The eyeglass lens of claim 624, wherein the method further comprises directing ultraviolet light toward the first composition, wherein the ultraviolet light initiates curing of the first composition to form the first coating layer.

25 627. The eyeglass lens of claim 624, wherein the method further comprises heating the first composition, wherein heating the first composition initiates curing of the first composition to form the first coating layer.

628. The eyeglass lens of claim 624, wherein the first coating layer has an index of refraction that is greater than an index of refraction of the plastic eyeglass lens.

629. The eyeglass lens of claim 624, wherein the second coating layer has an index of refraction that is less than an index of refraction of the first coating layer.

630. The eyeglass lens of claim 624, wherein the first coating layer has an index of refraction that is greater than an index of refraction of the plastic eyeglass lens, and wherein the second coating layer has an index of refraction that is less than an index of refraction of the first coating layer.

631. The eyeglass lens of claim 624, wherein the metal alkoxide has the general formula  $M(Y)_p$  wherein M is titanium, aluminum, zirconium, boron, tin, indium, antimony, or zinc, Y is a  $C_1$ - $C_{10}$  alkoxy or acetylacetonate, and p is an integer equivalent to the valence of M.

632. The eyeglass lens of claim 624, wherein the metal alkoxide has the general formula  $Ti(OR)_4$ , where R is a  $C_1$ - $C_{10}$  alkyl.

633. The eyeglass lens of claim 624, wherein the metal alkoxide comprises titanium methoxide, titanium ethoxide, titanium isopropoxide, titanium allylacetoacetate triisopropoxide, or titanium butoxide.

634. The eyeglass lens of claim 624, wherein the first composition further comprises a photoinitiator.

635. The eyeglass lens of claim 624, wherein the first composition further comprises colloidal silica.

636. The eyeglass lens of claim 624, wherein the metal alkoxide comprises a mixture of a titanium alkoxide and a zirconium alkoxide.

637. The eyeglass lens of claim 624, wherein the metal alkoxide comprises a mixture  
5 of a titanium alkoxide and an aluminum alkoxide.

638. The eyeglass lens of claim 624, wherein the first composition further comprises a coinitiator.

10 639. The eyeglass lens of claim 624, wherein the first composition further comprises an ethylenically substituted monomer.

640. The eyeglass lens of claim 624, wherein the second composition comprises a  
15 fluoroacrylate.

641. The eyeglass lens of claim 624, wherein the ethylenically substituted monomer comprises dipentacrylthritol tetracrylate.

642. The eyeglass lens of claim 624, further comprising forming an adhesion layer on  
20 the surface of the first coating layer prior to placing the polymerizable lens forming composition into the mold cavity.

643. The eyeglass lens of claim 624, wherein applying the first composition comprises directing the first composition toward the first mold while rotating the first mold.

25 644. The eyeglass lens of claim 624, wherein applying the second composition comprises directing the second composition toward the first mold while rotating the first mold.

645. The eyeglass lens of claim 624, wherein applying the first composition to the second coating layer comprises:

applying a first portion of the first composition to the second coating layer;

5

drying the first portion of the first composition;

applying a second portion of the first composition to the dried first portion; and

10

drying the second portion of the first composition.

646. The eyeglass lens of claim 624, wherein the first mold is used to cast a front surface of the plastic lens.

15 647. The eyeglass lens of claim 624, wherein the first mold is used to cast a back surface of the plastic lens.

648. The eyeglass lens of claim 624, further comprising:

20

applying the second composition to a casting face of the second mold member;

directing ultraviolet light toward the second composition on the second mold member, wherein the ultraviolet light initiates curing of the second composition to form a second coating layer on the second mold member;

25

applying a first composition to the second coating layer of the second mold member to form a first coating layer, the first composition comprising a metal alkoxide;



649. The eyeglass lens of claim 624, wherein the monomer composition comprises at least one polyethylenic-functional monomer containing two ethylenically unsaturated groups selected from acrylyl and methacrylyl.

5

650. The eyeglass lens of claim 624, wherein the monomer composition comprises an aromatic containing polyethylenic polyether functional monomer.

651. The eyeglass lens of claim 624, wherein the lens forming composition further  
10 comprises a co-initiator composition, wherein the co-initiator composition comprises an amine.

652. The eyeglass lens of claim 624, wherein the lens forming composition further  
15 comprises a co-initiator composition, wherein the co-initiator composition comprises an acrylated amine.

653. The eyeglass lens of claim 624, wherein the second photoinitiator comprises bis(2,6-dimethoxybenzoyl)-(2,4,4-trimethylphenyl)phosphine oxide.

20 654. The eyeglass lens of claim 624, wherein the lens forming composition further comprises an activating light absorbing compound.

655. The eyeglass lens of claim 624, wherein the lens forming composition further  
25 comprises a photochromic compound.

656. The eyeglass lens of claim 624, wherein the lens forming composition further  
comprises an ultraviolet light absorbing compound.

657. A method for forming an at least partially antireflective coating on a lens, comprising:

5 applying a first composition to at least one surface of the lens to form a first coating layer, the first composition comprising a first metal alkoxide;

applying a silicon containing composition to the first composition to form a silicon layer, the silicon containing composition comprising colloidal silicon or a silane monomer;

10 applying a second composition to the silicon layer, the second composition comprising an initiator and an ethylenically substituted monomer, wherein the second composition is curable by the application of ultraviolet light; and

15 directing ultraviolet light toward the second composition, wherein the ultraviolet light initiates curing of the second composition to form a second coating layer.

20 658. A method for forming a plastic lens, comprising:

applying a second composition to a casting face of a first mold member, the second composition comprising a first photoinitiator and an ethylenically substituted monomer, wherein the second composition is curable by the application of ultraviolet light;

25 directing ultraviolet light toward the second composition, wherein the ultraviolet light initiates curing of the second composition to form a second coating layer;

applying a silicon containing composition to the second composition to form a silicon layer, the silicon containing composition comprising colloidal silicon or a silane monomer;

5

applying a first composition to the silicon layer to form a first coating layer, the first composition comprising a metal alkoxide;

10

assembling a mold assembly, the mold assembly comprising the first mold member and a second mold member, wherein the first mold member and the second mold member together define a mold cavity;

15

placing a liquid lens forming composition in the mold cavity, the liquid lens forming composition comprising a monomer composition and a second photoinitiator;

directing activating light toward the mold cavity; and

20

demolding the formed lens from the mold cavity, wherein the first and second coating layers are transferred to an outer surface of the formed lens.

659. A plastic eyeglass lens comprising an at least partially antireflective coating, formed by the method, comprising:

25

applying a first composition to at least one surface of a non-coated plastic eyeglass lens to form a first coating layer, the first composition comprising a first metal alkoxide;

applying a silicon containing composition to the first composition to form a silicon layer, the silicon containing composition comprising colloidal silicon or a silane monomer;

5                   applying a second composition to the first coating layer, the second composition comprising an initiator and an ethylenically substituted monomer, wherein the second composition is curable by the application of ultraviolet light; and

10                  directing ultraviolet light toward the second composition, wherein the ultraviolet light initiates curing of the second composition to form a second coating layer.

660.   An eyeglass lens made by the method, comprising:

15                   applying a second composition to a casting face of a first mold member, the second composition comprising a first photoinitiator and an ethylenically substituted monomer, wherein the second composition is curable by the application of ultraviolet light;

20                  directing ultraviolet light toward the second composition, wherein the ultraviolet light initiates curing of the second composition to form a second coating layer;

25                   applying a silicon containing composition to the second composition to form a silicon layer, the silicon containing composition comprising colloidal silicon or a silane monomer;

applying a first composition to the silicon layer to form a first coating layer, the first composition comprising a metal alkoxide;

5 assembling a mold assembly, the mold assembly comprising the first mold member and a second mold member, wherein the first mold member and the second mold member together define a mold cavity;

10 placing a liquid lens forming composition in the mold cavity, the liquid lens forming composition comprising a monomer composition and a second photoinitiator;

directing activating light toward the mold cavity; and

15 demolding the formed lens from the mold cavity, wherein the first and second coating layers are transferred to an outer surface of the formed lens.

661. An eyeglass lens comprising an at least partially antireflective coating formed upon an outer surface of the eyeglass lens, wherein the at least partially antireflective coating comprises a first coating layer and a second coating layer;

20 and wherein the first coating layer comprises a reaction product of the components of a first composition with water or an alcohol, the first composition comprising a metal alkoxide;

25 and wherein the second coating layer comprises a reaction product of the components of a second composition, the second composition comprising an initiator and an ethylenically substituted monomer, wherein the second composition is curable by the application of ultraviolet light.

662. The eyeglass lens of claim 661, wherein the first composition is curable by the application of ultraviolet light.

663. The eyeglass lens of claim 661, wherein the first coating layer has an index of  
5 refraction that is greater than an index of refraction of the plastic eyeglass lens.

664. The eyeglass lens of claim 661, wherein the second coating layer has an index of refraction that is less than an index of refraction of the first coating layer.

10 665. The eyeglass lens of claim 661, wherein the first coating layer has an index of refraction that is greater than an index of refraction of the plastic eyeglass lens, and wherein the second coating layer has an index of refraction that is less than an index of refraction of the first coating layer.

15 666. The eyeglass lens of claim 661, wherein the initiator comprises a second metal alkoxide.

667. The eyeglass lens of claim 666, wherein the first and second metal alkoxides have the general formula  $M(Y)_p$  wherein M is titanium, aluminum, zirconium, boron, tin,  
20 indium, antimony, or zinc, Y is a  $C_1$ - $C_{10}$  alkoxy or acetylacetonate, and p is an integer equivalent to the valence of M.

668. The eyeglass lens of claim 666, wherein the first and second metal alkoxides have the general formula  $Ti(OR)_4$ , where R is a  $C_1$ - $C_{10}$  alkyl.

25

669. The eyeglass lens of claim 666, wherein the first and second metal alkoxides comprise titanium methoxide, titanium ethoxide, titanium isopropoxide, titanium butoxide, or titanium allylacetoacetate triisopropoxide.

670. The eyeglass lens of claim 661, wherein the first composition further comprises a photoinitiator.

671. The eyeglass lens of claim 661, wherein the first composition further comprises  
5 colloidal silica.

672. The eyeglass lens of claim 661, wherein the first composition further comprises a coinitiator.

10 673. The eyeglass lens of claim 661, wherein the first composition further comprises an ethylenically substituted monomer.

674. The eyeglass lens of claim 661, wherein the first composition further comprises an organic solvent.

15 675. The eyeglass lens of claim 661, wherein the second composition comprises a silane monomer.

676. The eyeglass lens of claim 661, wherein the second composition comprises a  
20 fluoroacrylate.

677. The eyeglass lens of claim 661, wherein the initiator comprises a second metal alkoxide, and wherein the second metal alkoxide comprises a titanium alkoxide and an aluminum alkoxide.

25 678. The eyeglass lens of claim 661, wherein the second composition further comprises a photoinitiator.

679. The eyeglass lens of claim 661, wherein the ethylenically substituted monomer comprises dipentaerythritol tetracrylate.

680. The eyeglass lens of claim 661, wherein the second composition further comprises  
5 an organic solvent.

681. The eyeglass lens of claim 661, wherein the antireflective coating is formed on a front surface of the eyeglass lens.

10 682. The eyeglass lens of claim 661, wherein the antireflective coating is formed on a back surface of the plastic eyeglass lens.

683. The eyeglass lens of claim 661, wherein the antireflective coating is applied to a front surface and a back surface of the plastic eyeglass lens.

15 684. The eyeglass lens of claim 661, wherein a thickness of the first coating layer and the second coating layer, combined, is less than about 500 nm.

685. A system for applying an at least partially antireflective coating to a plastic lens,  
20 comprising:

a coating unit for applying a coating to at least one of the mold members or the eyeglass lens during use; and

25 a coating composition comprising a metal alkoxide.

686. A mold assembly holder configured to support a mold assembly for forming an eyeglass lens, comprising:



a body;

an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly;

5

wherein the body comprises indicia, wherein the indicia is representative of the type of lens being formed by the mold assembly.

687. The mold assembly holder of claim 1, wherein the indicia comprises a colored  
10 body.

688. The mold assembly holder of claim 1, wherein the indicia comprises alphanumeric characters.

15 689. The mold assembly holder of claim 1, wherein the indicia comprises a label having alphanumeric information coupled to the body.

690. The mold assembly holder of claim 1, wherein the indicia comprises alphanumeric information molded into the body.

20

691. The mold assembly holder of claim 1, wherein the indicia comprises a colored body, and wherein the lens type comprises clear or photochromic, and wherein the body has a first color to designate use for forming photochromic lenses, and a second color, different from the first color, to designate use for forming clear lenses.

25

692. The mold assembly holder of claim 1, wherein the indicia comprises a colored body, and wherein the lens type comprises clear or photochromic, and wherein the color of the body is indicative of the type of lens being formed.

693. The mold assembly of claim 1, wherein the indicia comprises a colored body, and wherein the lens type comprises spheric single vision, aspheric single vision, flattop bifocal, asymmetrical progressive, and wherein the body has a first color to designate use for forming photochromic lenses, and a second color, different from the first color, to designate use for forming clear lenses.
694. The mold assembly holder of claim 1, wherein the body is configured to allow activating light to reach the mold assembly.
695. The mold assembly holder of claim 1, wherein the indentation defines an opening, and wherein the opening is positioned such that activating light passes through the opening and onto the mold assembly during use.
696. The mold assembly holder of claim 1, further comprising additional indentations for holding a mold or a gasket of the mold assembly.
697. The mold assembly holder of claim 1, further comprising an additional indentation for holding an additional mold assembly, wherein the additional indentation has a shape that is complementary with the additional mold assembly.
698. The mold assembly holder of claim 1, wherein a portion of the mold assembly holder is configured to hold a job ticket.
699. The mold assembly holder of claim 1, wherein the indentation extends into the body to a depth such that an upper surface of the mold assembly is positioned at or below the upper surface of the body.
700. A mold assembly holder configured to support a mold assembly for forming an eyeglass lens, comprising:

a body;

a first indentation formed in the body, wherein the second indentation is complementary to the shape of the mold assembly;

5        a second and third indentation formed in the body, wherein the second and third indentations are complementary to the shape of a mold member.

701.    The mold assembly holder of claim 700, wherein the body includes indicia,  
10        wherein the indicia is representative of the type of lens being formed by the mold assembly.

702.    The mold assembly holder of claim 700, wherein the body includes indicia,  
      wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises a colored body.

15    703.    The mold assembly holder of claim 700, wherein the body includes indicia,  
      wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises alphanumeric characters.

704.    The mold assembly holder of claim 700, wherein the body includes indicia,  
20        wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises a label having alphanumeric information coupled to the body.

705.    The mold assembly holder of claim 700, wherein the body includes indicia,  
25        wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises alphanumeric information molded into the body.

706. The mold assembly holder of claim 700, wherein the body includes indicia,  
wherein the indicia is representative of the type of lens being formed by the mold  
assembly, and wherein the indicia comprises a colored body, and wherein the lens  
type comprises clear or photochromic, and wherein the body has a first color to  
5 designate use for forming photochromic lenses, and a second color, different from the  
first color, to designate use for forming clear lenses.

707. The mold assembly holder of claim 700, wherein the body includes indicia,  
wherein the indicia is representative of the type of lens being formed by the mold  
10 assembly, and wherein the indicia comprises a colored body, and wherein the lens  
type comprises clear or photochromic, and wherein the color of the body is indicative  
of the type of lens being formed.

708. The mold assembly holder of claim 700, wherein the body includes indicia,  
15 wherein the indicia is representative of the type of lens being formed by the mold  
assembly, and wherein the indicia comprises a colored body, and wherein the lens  
type comprises spheric single vision, aspheric single vision, flattop bifocal,  
asymmetrical progressive, and wherein the body has a first color to designate use for  
forming photochromic lenses, and a second color, different from the first color, to  
20 designate use for forming clear lenses.

709. The mold assembly holder of claim 700, wherein the body is configured to allow  
activating light to reach the mold assembly.

25 710. The mold assembly holder of claim 700, wherein the indentation defines an  
opening, and wherein the opening is positioned such that activating light passes  
through the opening and onto the mold assembly during use.

711. The mold assembly holder of claim 700, wherein a portion of the mold assembly holder is configured to hold a job ticket.
- 5 712. The mold assembly holder of claim 700, wherein the indentation extends into the body to a depth such that an upper surface of the mold assembly is positioned at or below the upper surface of the body.
713. The mold assembly holder of claim 700, further comprising a fourth indentation formed in the body, wherein the fourth indentation is complementary to the shape of a mold assembly, and wherein the mold assembly holder is configured to hold two  
10 mold assemblies.
714. The mold assembly holder of claim 700, further comprising a fourth indentation formed in the body, wherein the fourth indentation is complementary to the shape of a mold assembly, and further comprising fifth and sixth indentations formed in the body, wherein the fifth and sixth indentations are complementary to the shape of a  
15 mold member, and wherein the mold assembly holder is configured to simultaneously hold up to two mold assemblies and up to four mold members.
715. The mold assembly holder of claim 700, wherein the second and third indentations have a shape that is complementary to both a mold member and a demolded cured eyeglass lens.
- 20 716. The mold assembly holder of claim 700, further comprising a fourth indentation formed in the body, wherein the fourth indentation is complementary to the shape of a mold assembly, and further comprising fifth and sixth indentations formed in the body, wherein the fifth and sixth indentations are complementary to the shape of a mold member and a demolded cured eyeglass lens, and wherein the mold assembly  
25 holder is configured to simultaneously hold up to two mold assemblies and up to four mold members or two demolded cured eyeglass lenses.

717. A system for preparing an eyeglass lens, comprising:

5 a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

10 a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

15 a mold assembly holder configured to support a mold assembly, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly; and

a conveyor system configured to convey the mold assembly holder from the first lens curing unit into and through the second lens curing unit.

20 718. The system of claim 717, wherein the body comprises indicia, wherein the indicia is representative of the type of lens being formed by the mold assembly.

719. The system of claim 717, wherein the body comprises indicia, wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises a colored body.

25

720. The system of claim 717, wherein the body comprises indicia, wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises alphanumeric characters.

721. The system of claim 717, wherein the body comprises indicia, wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises a label having alphanumeric information coupled to the body.

5 722. The system of claim 717, wherein the body comprises indicia, wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises alphanumeric information molded into the body.

723. The system of claim 717, wherein the body comprises indicia, wherein the indicia  
10 is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises a colored body, and wherein the lens type comprises clear or photochromic, and wherein the body has a first color to designate use for forming photochromic lenses, and a second color, different from the first color, to designate use for forming clear lenses.

15 724. The system of claim 717, wherein the body comprises indicia, wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises a colored body, and wherein the lens type comprises clear or photochromic, and wherein the color of the body is indicative of the type of lens being  
20 formed.

725. The system of claim 717, wherein the body comprises indicia, wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the indicia comprises a colored body, and wherein the lens type comprises spheric  
25 single vision, aspheric single vision, flattop bifocal, asymmetrical progressive, and wherein the body has a first color to designate use for forming photochromic lenses, and a second color, different from the first color, to designate use for forming clear lenses.

726. The system of claim 717, wherein the body comprises indicia, wherein the indicia is representative of the type of lens being formed by the mold assembly, and wherein the body is configured to allow activating light to reach the mold assembly.

5 727. The system of claim 717, wherein an opening is positioned in the body such that activating light passes through the opening and onto the mold assembly during use.

728. The system of claim 717, further comprising additional indentations for holding a mold or a gasket of the mold assembly.

10

729. The system of claim 717, further comprising an additional indentation for holding an additional mold assembly, wherein the additional indentation has a shape that is complementary with the additional mold assembly.

15 730. The system of claim 717, wherein a portion of the mold assembly holder is configured to hold a job ticket.

731. The system of claim 717, wherein the indentation extends into the body to a depth such that an upper surface of the mold assembly is positioned at or below the upper  
20 surface of the body.

732. The system of claim 717, wherein the first activating light source is an ultraviolet light source.

733. The system of claim 717, wherein the second activating light source is an  
25 ultraviolet light.

734. The system of claim 717, wherein the first and second activating light sources are ultraviolet lights.



735. The system of claim 717, wherein the first and second activating light sources have substantially the same spectral output.
736. The system of claim 717, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.
- 5 737. The system of claim 717, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.
738. The system of claim 717, further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity  
10 of the activating light emanating from the first activating light source.
739. The system of claim 717, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
740. The system of claim 717, further comprising a first filter disposed directly  
15 adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
- 20 741. The system of claim 717, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.
742. The system of claim 717, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is  
25 configured to heat the interior of the anneal unit.

743. The system of claim 717, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to  
5 about 250 °F.

744. The system of claim 717, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly  
10 through the anneal unit.

745. The system of claim 717, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.\

746. The system of claim 717,, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass  
15 lens prescription.

747. The system of claim 717, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

20 748. The system of claim 717, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

749. The system of claim 717, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

750. The system of claim 717, wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through  
5 the second curing unit.

751. The system of claim 717, wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

10 752. The system of claim 717, wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

15 753. A system for preparing an eyeglass lens, comprising:

a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

20 a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

25 first and second mold assembly holders, each mold assembly holder configured to support a mold assembly, each of the mold assembly holders comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of

the mold assembly, and wherein the body of the first mold assembly holder is formed of a first color, and wherein the body of the second mold assembly holder is formed of a second color, wherein the first and second colors are different from each other, and wherein the first and second colors are indicative of the type of lens being formed; and

5

a conveyor system configured to convey the mold assembly holder from the first lens curing unit into and through the second lens curing unit.

754. The system of claim 753, wherein the body is configured to allow activating light  
10 to reach the mold assembly.

755. The system of claim 753, wherein the indentation defines an opening, and wherein  
15 the opening is positioned such that activating light passes through the opening and onto the mold assembly during use.

15

756. The system of claim 753, further comprising additional indentations for holding a mold or a gasket of the mold assembly.

757. The system of claim 753, further comprising an additional indentation for holding  
20 an additional mold assembly, wherein the additional indentation has a shape that is complementary with the additional mold assembly.

20

758. The system of claim 753, wherein a portion of the mold assembly holder is  
25 configured to hold a job ticket.

25

759. The system of claim 753, wherein the indentation extends into the body to a depth such that an upper surface of the mold assembly is positioned at or below the upper surface of the body.

760. The system of claim 753, wherein the first activating light source is an ultraviolet light source.
761. The system of claim 753, wherein the second activating light source is an ultraviolet light.
- 5 762. The system of claim 753, wherein the first and second activating light sources are ultraviolet lights.
763. The system of claim 753, wherein the first and second activating light sources have substantially the same spectral output.
764. The system of claim 753, wherein the first and second activating light sources  
10 have a peak light intensity at a range of about 385 nm to about 490 nm.
765. The system of claim 753, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.
766. The system of claim 753, further comprising a filter disposed directly adjacent to  
15 the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.
767. The system of claim 753, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
- 20 768. The system of claim 753, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating

light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

5 769. The system of claim 753, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.

770. The system of claim 753, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

10 771. The system of claim 753, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

15 772. The system of claim 753, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

20 773. The system of claim 753, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.\

774. The system of claim 753,, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

775. The system of claim 753, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

776. The system of claim 753, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

777. The system of claim 753, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

778. The system of claim 753, wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

779. The system of claim 753, wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

780. The system of claim 753, wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

781. An apparatus for preparing an eyeglass lens, comprising:

a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

5 a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit;

a controller coupled to the conveyor system, the controller being configured to control the movement of the conveyor system; and

10 a sensor disposed in the first lens curing unit, wherein the sensor is configured to sense when a mold assembly enters the first curing unit, and wherein the sensor produces a control signal to the controller, and wherein the controller controls the movement of the conveyor system in response to receiving the control signal.

782. The apparatus of claim 781, wherein the sensor comprises a photoelectric sensing device.

15 783. The apparatus of claim 781, wherein the controller is configured to increase the speed of the conveyor system in response to receiving the control signal.

784. The apparatus of claim 781, wherein the first activating light source is an ultraviolet light source.

20 785. The apparatus of claim 781, wherein the second activating light source is an ultraviolet light.

786. The apparatus of claim 781, wherein the first and second activating light sources are ultraviolet lights.

787. The apparatus of claim 781, wherein the first and second activating light sources have substantially the same spectral output.



788. The apparatus of claim 781, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.
789. The apparatus of claim 781, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps  
5 are positioned on opposite sides of the first curing unit.
790. The apparatus of claim 781, further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.
791. The apparatus of claim 781, further comprising a filter disposed directly adjacent  
10 to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
792. The apparatus of claim 781, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and  
15 further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
793. The apparatus of claim 781, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air  
20 within the second curing unit during use.
794. The apparatus of claim 781, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.
795. The apparatus of claim 781, further comprising an anneal unit, the anneal unit  
25 comprising an anneal unit heating system, wherein the anneal unit heating system is

configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

- 5 796. The apparatus of claim 781, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.
- 10 797. The apparatus of claim 781, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.
798. The apparatus of claim 781, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.
- 15 799. The apparatus of claim 781, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.
800. The apparatus of claim 781, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.
- 20 801. The apparatus of claim 781, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.
802. The apparatus of claim 781, wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey
- 25

the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

803. The apparatus of claim 781, wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly  
5 from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

804. The apparatus of claim 781, wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the  
10 conveyor system.

805. The apparatus of claim 781, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.  
15

806. An apparatus for preparing an eyeglass lens, comprising:

a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

20 a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit;

a gating device coupled to the conveyor system, wherein the gating device is configured to inhibit movement of the mold assembly from the first curing unit to the second curing unit during use; and

a controller coupled to the gating device, the controller being configured to control the operation of the gating device, and wherein the controller is configured to operate the gating device to control the flow of mold assemblies from the first curing unit to the second curing unit during use.

10 807. The apparatus of claim 806, wherein the gating device comprises an air actuated elongated member, wherein the elongated member inhibits movement of the mold assembly in an extended position during use.

808. The apparatus of claim 806, further comprising a sensor coupled to the first curing unit, wherein the sensor is configured to sense the location of a mold assembly, and  
15 wherein the controller is configured to operate the gating device in response to the position of the mold assembly.

809. The apparatus of claim 806, wherein the gating device comprises an elongated member, wherein the elongated member inhibits movement of the mold assembly in an extended position during use, and wherein the elongated member is retracted in  
20 response to a control signal from the controller to release the mold assembly into the second curing unit during use.

810. The apparatus of claim 806, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the  
25 mold assembly.

811. The apparatus of claim 806, wherein the first activating light source is an ultraviolet light source.
812. The apparatus of claim 806, wherein the second activating light source is an ultraviolet light.
- 5 813. The apparatus of claim 806, wherein the first and second activating light sources are ultraviolet lights.
814. The apparatus of claim 806, wherein the first and second activating light sources have substantially the same spectral output.
815. The apparatus of claim 806, wherein the first and second activating light sources  
10 have a peak light intensity at a range of about 385 nm to about 490 nm.
816. The apparatus of claim 806, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.
817. The apparatus of claim 806, further comprising a filter disposed directly adjacent  
15 to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.
818. The apparatus of claim 806, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
- 20 819. The apparatus of claim 806, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating

light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

820. The apparatus of claim 806, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.

821. The apparatus of claim 806, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

822. The apparatus of claim 806, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

823. The apparatus of claim 806, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

824. The apparatus of claim 806, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.

825. The apparatus of claim 806, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

826. The apparatus of claim 806, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

5 827. The apparatus of claim 806, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

828. The apparatus of claim 806, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

10 829. The apparatus of claim 806, wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

15 830. The apparatus of claim 806, wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

20 831. The apparatus of claim 806, wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

832. An apparatus for preparing an eyeglass lens, comprising  
a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;  
25

a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

5 a reader coupled to the first curing unit, the reader being configured to read eyeglass lens prescription information from a mold assembly holder placed proximate to the first curing unit; and

a controller coupled to the first curing unit and the reader, wherein the controller is configured to control the operation of the first curing unit in response to the  
10 eyeglass lens prescription information read by the reader.

833. The apparatus of claim 832, wherein the controller is configured to adjust the time activating light is directed to the mold assembly in the first curing unit in response to the eyeglass lens prescription information.

834. The apparatus of claim 832, further comprising a movable aperture disposed  
15 within the first curing unit, wherein the movable aperture is positionable in front of the first activating light source during use, and wherein the controller is configured to adjust the position of the movable aperture in response to the eyeglass lens prescription information.

835. The apparatus of claim 832, wherein the controller is a computer system.

20 836. The apparatus of claim 832, wherein the reader is a bar code reader.

837. The apparatus of claim 832, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.



838. The apparatus of claim 832, wherein the first activating light source is an ultraviolet light source.

839. The apparatus of claim 832, wherein the second activating light source is an ultraviolet light.

5 840. The apparatus of claim 832, wherein the first and second activating light sources are ultraviolet lights.

841. The apparatus of claim 832, wherein the first and second activating light sources have substantially the same spectral output.

842. The apparatus of claim 832, wherein the first and second activating light sources  
10 have a peak light intensity at a range of about 385 nm to about 490 nm.

843. The apparatus of claim 832, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.

844. The apparatus of claim 832, further comprising a filter disposed directly adjacent  
15 to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

845. The apparatus of claim 832, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

20 846. The apparatus of claim 832, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating

light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

847. The apparatus of claim 832, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.

848. The apparatus of claim 832, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

849. The apparatus of claim 832, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

850. The apparatus of claim 832, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

851. The apparatus of claim 832, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.\

852. The apparatus of claim 832, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

853. The apparatus of claim 832, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

854. The apparatus of claim 832, wherein the second activating light source comprises  
5 a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

855. The apparatus of claim 832, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

856. The apparatus of claim 832, wherein the conveyor system comprises a continuous  
10 flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

857. The apparatus of claim 832, wherein the conveyor system comprises two discrete  
15 conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

858. The apparatus of claim 832, wherein the conveyor system comprises a flexible  
20 member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

859. A method of preparing an eyeglass lens, comprising:

placing a job ticket in a lens curing apparatus, wherein the job ticket includes  
prescription information, the lens curing apparatus comprising an activating light  
25 source and heating system, wherein the activating light source is configured to

direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the lens curing unit;

reading the prescription information from the job ticket;

5 placing a mold assembly comprising a lens forming composition into the lens curing unit; and

operating the lens curing apparatus to produce curing conditions, the curing conditions being determined by the prescription information.

860. The method of claim 859, wherein reading the prescription information comprises reading the prescription information from a barcode.

10 861. The method of claim 859, further comprising forming a job ticket with prescription information, wherein the prescription information is entered into a job ticket printing device from an input device, wherein the input device is operable by a user to enter prescription information.

15 862. The method of claim 859, wherein the prescription information comprises a sphere power, a cylinder power, and a lens location.

863. The method of claim 859, wherein the prescription information further comprises a monomer type and a lens type.

864. The method of claim 859, wherein the prescription information comprises a sphere power, a cylinder power, an add power and a lens location.

20 865. The method of claim 859, wherein operating the lens curing apparatus comprises controlling the activating light source to produce the curing conditions for the eyeglass lens.

866. The method of claim 859, wherein the activating light source comprises a plurality of light sources, and wherein controlling the activating light source comprises controlling each of the plurality of light sources independently.
867. The method of claim 859, wherein the lens curing apparatus further comprises an  
5 anneal unit, the further comprising controlling an anneal unit, the anneal unit being configured to apply heat to a demolded eyeglass lens.
868. The method of claim 859, wherein operating the lens curing apparatus comprises controlling the duration of time that the activating light source remains on.
869. A computer-implemented method for controlling an eyeglass lens forming  
10 apparatus, the method comprising:
- receiving prescription information from a reader coupled to a lens forming  
apparatus, wherein the prescription information defines an eyeglass  
prescription;
- 15
- determining curing conditions based on the prescription information;
- controlling a curing unit, the curing unit being configured to cure at least a  
portion of a lens forming composition in a mold, wherein the curing unit is  
20 controlled to produce the curing conditions.
870. The method of claim 869, wherein the reader comprises a barcode reader.
871. The method of claim 869, further comprising forming a job ticket with  
prescription information, wherein the prescription information is entered into a job  
25 ticket printing device from an input device, wherein the input device is operable by a  
user to enter prescription information.

872. The method of claim 869, wherein the prescription information comprises a sphere power, a cylinder power, and a lens location.
873. The method of claim 869, wherein the prescription information further comprises a monomer type and a lens type.
- 5 874. The method of claim 869, wherein the prescription information comprises a sphere power, a cylinder power, an add power and a lens location.
875. The method of claim 869, wherein operating the lens curing apparatus comprises controlling the activating light source to produce the curing conditions for the eyeglass lens.
- 10 876. The method of claim 869, wherein the activating light source comprises a plurality of light sources, and wherein controlling the activating light source comprises controlling each of the plurality of light sources independently.
877. The method of claim 869, wherein the lens curing apparatus further comprises an anneal unit, the further comprising controlling an anneal unit, the anneal unit being  
15 configured to apply heat to a demolded eyeglass lens.
878. The method of claim 869, wherein operating the lens curing apparatus comprises controlling the duration of time that the activating light source remains on.
879. An apparatus for preparing an eyeglass lens, comprising:
- 20 a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;
- a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light

toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

a first conveyor system configured to convey the mold assembly through the first lens curing unit, the first conveyor system operable at varying speeds;

5 a second conveyor system configured to convey the mold assembly through the second lens curing unit.

880. The apparatus of claim 879, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the  
10 mold assembly.

881. The apparatus of claim 879, wherein the first activating light source is an ultraviolet light source.

882. The apparatus of claim 879, wherein the second activating light source is an ultraviolet light.

15 883. The apparatus of claim 879, wherein the first and second activating light sources are ultraviolet lights.

884. The apparatus of claim 879, wherein the first and second activating light sources have substantially the same spectral output.

885. The apparatus of claim 879, wherein the first and second activating light sources  
20 have a peak light intensity at a range of about 385 nm to about 490 nm.

886. The apparatus of claim 879, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.

887. The apparatus of claim 879, further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

5 888. The apparatus of claim 879, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

889. The apparatus of claim 879, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and  
10 further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

890. The apparatus of claim 879, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air  
15 within the second curing unit during use.

891. The apparatus of claim 879, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

892. The apparatus of claim 879, further comprising an anneal unit, the anneal unit  
20 comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

893. The apparatus of claim 879, further comprising an anneal unit, the anneal unit  
25 comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further



comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

894. The apparatus of claim 879, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit  
5 and the second curing unit during use.

895. The apparatus of claim 879, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

896. The apparatus of claim 879, wherein the first activating light source comprises a  
10 fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

897. The apparatus of claim 879, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

15 898. The apparatus of claim 879, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

899. The apparatus of claim 879, wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey  
20 the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

900. The apparatus of claim 879, wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor  
25 is configured to convey the mold assemblies through the second curing unit.

901. The apparatus of claim 879, wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

5 902. An method of preparing an eyeglass lens in a lens forming apparatus, the lens forming apparatus, comprising:

a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

10 a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

15 a first conveyor system configured to convey the mold assembly through the first lens curing unit, the first conveyor system operable at varying speeds;

a second conveyor system configured to convey the mold assembly through the second lens curing unit;

wherein the method comprises:

20 placing a first mold assembly filled with a first lens forming composition in a first mold assembly holder, the first mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly;

25 placing the first mold assembly holder in the first lens curing unit;  
initiating curing of the lens forming composition by applying activating light to

the first mold assembly;

advancing the first mold assembly holder to the second curing unit;

5        placing a second mold assembly filled with a lens forming composition in a second mold assembly holder, the second mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly;

10        initiating curing of the second lens forming composition by applying activating light to the second mold assembly, wherein the activating light is applied at a time based on the position of the first mold assembly holder in the second curing unit;

advancing the second mold assembly holder to the second curing unit.

15        903.    The method of claim 902, wherein the indentations of the first and second mold assembly holders define an opening, and wherein the opening is positioned such that activating light passes through the opening and onto the mold assembly during use.

20        904.    The method of claim 902, wherein the first and second mold assembly holders further comprise an additional indentation for holding an additional mold assembly, wherein the additional indentation has a shape that is complementary with the additional mold assembly.

905.    The method of claim 902, wherein a portion of the first and second mold assembly holders are configured to hold a job ticket.

25        906.    The method of claim 902, wherein the indentation in the first and second mold assembly holders extend into the body to a depth such that an upper surface of the mold assembly is positioned at or below the upper surface of the body.

907. The method of claim 902, wherein initiating curing of the lens forming composition comprises directing activating light toward at least one of the mold members for less than 100 seconds.

908. The method of claim 902, further comprising directing activating light toward at least one of the mold members and applying heat to both mold members in the second curing unit.

909. The method of claim 902, further comprising directing activating light toward at least one of the mold members and applying heat to both mold members in the second curing unit to substantially cure the lens forming composition;

demolding the cured lens forming composition from the mold assembly; and

applying heat to the lens in the absence of activating light, subsequent to directing activating light and heat toward at least one of the mold members.

910. The method of claim 902, further comprising heating the lens forming composition; and placing the heated lens forming composition in a mold cavity.

911. An apparatus for preparing an eyeglass lens, comprising: a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light

toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit; and

5 a controller coupled to the first curing unit, wherein the controller is configured to control the operation of the first activating light source in the first curing unit in response to the eyeglass lens prescription and the position of a second mold assembly in the second curing unit.

912. The apparatus of claim 911, wherein the mold assembly resides on a mold  
10 assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

913. The apparatus of claim 911, wherein the first activating light source is an ultraviolet light source.

15 914. The apparatus of claim 911, wherein the second activating light source is an ultraviolet light.

915. The apparatus of claim 911, wherein the first and second activating light sources are ultraviolet lights.

20 916. The apparatus of claim 911, wherein the first and second activating light sources have substantially the same spectral output.

917. The apparatus of claim 911, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.

918. The apparatus of claim 911, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.

919. The apparatus of claim 911, further comprising a filter disposed directly adjacent  
5 to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

920. The apparatus of claim 911, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

10 921. The apparatus of claim 911, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating  
15 light emanating from the second activating light source.

922. The apparatus of claim 911, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.

923. The apparatus of claim 911, further comprising an anneal unit, the anneal unit  
20 comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

924. The apparatus of claim 911, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating

system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

925. The apparatus of claim 911, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

926. The apparatus of claim 911, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.

927. The apparatus of claim 911, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

928. The apparatus of claim 911, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

929. The apparatus of claim 911, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

930. The apparatus of claim 911, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

931. The apparatus of claim 911, wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey

the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

932. The apparatus of claim 911, wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly  
5 from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

933. The apparatus of claim 911, wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the  
10 conveyor system.

934. An apparatus for preparing an eyeglass lens, comprising:

a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

15 a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use, and wherein the heat system is configured to heat the interior of the second lens curing unit;

a first computer system for receiving an eyeglass lens prescription;

20 a second computer system coupled to the first curing unit, the second curing unit, and the first computer system, wherein the second computer system is configured to control the operation of the first and second curing units in response to the eyeglass lens prescription entered into the first computer system.

935. The apparatus of claim 934, wherein the mold assembly resides on a mold  
25 assembly holder, the mold assembly holder comprising a body and an indentation



formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

936. The apparatus of claim 934, wherein the first activating light source is an ultraviolet light source.

5 937. The apparatus of claim 934, wherein the second activating light source is an ultraviolet light.

938. The apparatus of claim 934, wherein the first and second activating light sources are ultraviolet lights.

939. The apparatus of claim 934, wherein the first and second activating light sources  
10 have substantially the same spectral output.

940. The apparatus of claim 934, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.

941. The apparatus of claim 934, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps  
15 are positioned on opposite sides of the first curing unit.

942. The apparatus of claim 934, further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

943. The apparatus of claim 934, further comprising a filter disposed directly adjacent  
20 to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

944. The apparatus of claim 934, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and

further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

945. The apparatus of claim 934, further comprising an air distributor positioned  
5 within the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.

946. The apparatus of claim 934, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

10 947. The apparatus of claim 934, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

15 948. The apparatus of claim 934, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

20 949. The apparatus of claim 934, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.

950. The apparatus of claim 934, further comprising a programmable controller  
25 configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

951. The apparatus of claim 934, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

952. The apparatus of claim 934, wherein the second activating light source comprises  
5 a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

953. The apparatus of claim 934, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

954. The apparatus of claim 934, further comprising a conveyor system configured to  
10 convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the  
15 second curing unit.

955. The apparatus of claim 934, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first  
20 curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

956. The apparatus of claim 934, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises a flexible member  
25 configured to interact with a mold assembly, and wherein the flexible member is

coupled to a motor configured to move the flexible member through the conveyor system.

957. An apparatus for preparing an eyeglass lens, comprising:

5 a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

10 a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use, and wherein the heat system is configured to heat the interior of the second lens curing unit;

a computer system coupled to the first curing unit and the second curing unit, wherein the first computer system is configured to receive eyeglass lens prescription information and control the operation of the first and second curing units in response to the eyeglass lens prescription entered.

15 958. The apparatus of claim 957, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

20 959. The apparatus of claim 957, wherein the first activating light source is an ultraviolet light source.

960. The apparatus of claim 957, wherein the second activating light source is an ultraviolet light.

961. The apparatus of claim 957, wherein the first and second activating light sources are ultraviolet lights.

962. The apparatus of claim 957, wherein the first and second activating light sources have substantially the same spectral output.
963. The apparatus of claim 957, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.
- 5 964. The apparatus of claim 957, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.
965. The apparatus of claim 957, further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an  
10 intensity of the activating light emanating from the first activating light source.
966. The apparatus of claim 957, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
- 15 967. The apparatus of claim 957, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
- 20 968. The apparatus of claim 957, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.
969. The apparatus of claim 957, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is  
25 configured to heat the interior of the anneal unit.

970. The apparatus of claim 957, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to  
5 about 250 °F.

971. The apparatus of claim 957, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly  
10 through the anneal unit.

972. The apparatus of claim 957, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.

973. The apparatus of claim 957, further comprising a programmable controller  
15 configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

974. The apparatus of claim 957, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

20 975. The apparatus of claim 957, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

976. The apparatus of claim 957, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

977. The apparatus of claim 957, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein  
5 the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

978. The apparatus of claim 957, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second  
10 lens curing unit, and wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

979. The apparatus of claim 957, further comprising a conveyor system configured to  
15 convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

20 980. An apparatus for preparing an eyeglass lens, comprising:

a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

a second lens curing unit comprising a second activating light source and heating  
25 system, wherein the second activating light source is configured to direct activating light toward a mold assembly during use, and wherein the heat system is configured to heat the interior of the second lens curing unit, and wherein the

second activating light source is coupled to a movable member positioned within the curing unit, and wherein the movable member is positionable such that at least a portion of the second activating light source is disposed outside the second curing unit;

5            wherein the first and second lens curing units are coupled together.

981.    The apparatus of claim 980, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

10    982.    The apparatus of claim 980, wherein the first activating light source is an ultraviolet light source.

983.    The apparatus of claim 980, wherein the second activating light source is an ultraviolet light.

15    984.    The apparatus of claim 980, wherein the first and second activating light sources are ultraviolet lights.

985.    The apparatus of claim 980, wherein the first and second activating light sources have substantially the same spectral output.

986.    The apparatus of claim 980, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.

20    987.    The apparatus of claim 980, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.



988. The apparatus of claim 980, further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.
989. The apparatus of claim 980, further comprising a filter disposed directly adjacent  
5 to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
990. The apparatus of claim 980, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and  
10 further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
991. The apparatus of claim 980, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air  
15 within the second curing unit during use.
992. The apparatus of claim 980, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.
993. The apparatus of claim 980, further comprising an anneal unit, the anneal unit  
20 comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.
994. The apparatus of claim 980, further comprising an anneal unit, the anneal unit  
25 comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further

comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

995. The apparatus of claim 980, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit  
5 and the second curing unit during use.
996. The apparatus of claim 980, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.
997. The apparatus of claim 980, wherein the first activating light source comprises a  
10 fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.
998. The apparatus of claim 980, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.
- 15 999. The apparatus of claim 980, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.
1000. The apparatus of claim 980, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises a continuous flexible  
20 member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.
1001. The apparatus of claim 980, further comprising a conveyor system configured to  
25 convey the mold assembly from the first lens curing unit into and through the second

lens curing unit, and wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

5 1002. The apparatus of claim 980, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor  
10 system.

1003. An apparatus for preparing an eyeglass lens, comprising:

a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

15 a second lens curing unit comprising a second activating light source and heating system, wherein the second activating light source is configured to direct activating light toward a mold assembly during use, and wherein the heat system is configured to heat the interior of the second lens curing unit, and wherein the heat system comprises a heater unit, the heater unit comprising a heat element and  
20 a fan;

wherein the first and second lens curing units are coupled together.

1004. The apparatus of claim 1003, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the  
25 mold assembly.

1005. The apparatus of claim 1003, wherein the first activating light source is an ultraviolet light source.
1006. The apparatus of claim 1003, wherein the second activating light source is an ultraviolet light.
- 5 1007. The apparatus of claim 1003, wherein the first and second activating light sources are ultraviolet lights.
1008. The apparatus of claim 1003, wherein the first and second activating light sources have substantially the same spectral output.
1009. The apparatus of claim 1003, wherein the first and second activating light sources  
10 have a peak light intensity at a range of about 385 nm to about 490 nm.
1010. The apparatus of claim 1003, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.
1011. The apparatus of claim 1003, further comprising a filter disposed directly adjacent  
15 to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.
1012. The apparatus of claim 1003, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
- 20 1013. The apparatus of claim 1003, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating

light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1014. The apparatus of claim 1003, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.

1015. The apparatus of claim 1003, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

1016. The apparatus of claim 1003, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

1017. The apparatus of claim 1003, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

1018. The apparatus of claim 1003, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.

1019. The apparatus of claim 1003, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

1020. The apparatus of claim 1003, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1021. The apparatus of claim 1003, wherein the second activating light source  
5 comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1022. The apparatus of claim 1003, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

1023. The apparatus of claim 1003, further comprising a conveyor system configured to  
10 convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the  
15 second curing unit.

1024. The apparatus of claim 1003, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first  
20 curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

1025. The apparatus of claim 1003, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises a flexible member  
25 configured to interact with a mold assembly, and wherein the flexible member is

coupled to a motor configured to move the flexible member through the conveyor system.

1026. An apparatus for preparing an eyeglass lens, comprising:

5 a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

10 a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit;

a first sensor disposed in the first lens curing unit, wherein the sensor is configured to sense when a mold assembly enters the first curing unit, and

15 a second sensor disposed in the second curing unit, wherein the wherein the second sensor is configured to sense when a mold assembly enters the second curing unit;

wherein the first and second sensors are configured to produce signals that allow the progress of a mold assembly through the apparatus to be monitored.

20 1027. The apparatus of claim 1026, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

1028. The apparatus of claim 1026, wherein the first activating light source is an ultraviolet light source.
1029. The apparatus of claim 1026, wherein the second activating light source is an ultraviolet light.
- 5 1030. The apparatus of claim 1026, wherein the first and second activating light sources are ultraviolet lights.
1031. The apparatus of claim 1026, wherein the first and second activating light sources have substantially the same spectral output.
1032. The apparatus of claim 1026, wherein the first and second activating light sources  
10 have a peak light intensity at a range of about 385 nm to about 490 nm.
1033. The apparatus of claim 1026, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.
1034. The apparatus of claim 1026, further comprising a filter disposed directly adjacent  
15 to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.
1035. The apparatus of claim 1026, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
- 20 1036. The apparatus of claim 1026, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating



light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1037. The apparatus of claim 1026, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.

1038. The apparatus of claim 1026, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

1039. The apparatus of claim 1026, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

1040. The apparatus of claim 1026, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

1041. The apparatus of claim 1026, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.

1042. The apparatus of claim 1026, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

1043. The apparatus of claim 1026, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1044. The apparatus of claim 1026, wherein the second activating light source  
5 comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1045. The apparatus of claim 1026, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

1046. The apparatus of claim 1026, wherein the conveyor system comprises a  
10 continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

1047. The apparatus of claim 1026, wherein the conveyor system comprises two discrete  
15 conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

1048. The apparatus of claim 1026, wherein the conveyor system comprises a flexible  
20 member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

1049. An apparatus for preparing an eyeglass lens, comprising:  
  
a lens curing unit configured to direct activating light toward a mold assembly  
during use, wherein the apparatus is configured to produce greater than about 25  
25 eyeglass lenses per hour.

1050. The apparatus of claim 1049, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.
1051. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source, wherein the first activating light source is an ultraviolet light source.
1052. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, wherein the second activating light source is an ultraviolet light.
1053. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources are ultraviolet lights.
1054. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources have substantially the same spectral output.
1055. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.
1056. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, and wherein the first activating light source comprises a first set of lamps and a second set of lamps,

wherein the first and second set of lamps are positioned on opposite sides of the lens curing unit.

1057. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, and further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

1058. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, and further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1059. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1060. The apparatus of claim 1049, further comprising an air distributor positioned within the lens curing unit, the air distributor being configured to circulate air within the lens curing unit during use.

1061. The apparatus of claim 1049, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

1062. The apparatus of claim 1049, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to  
5 about 250 °F.

1063. The apparatus of claim 1049, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly  
10 through the anneal unit.

1064. The apparatus of claim 1049, further comprising a programmable controller configured to substantially simultaneously control operation of the lens curing unit during use.

1065. The apparatus of claim 1049, further comprising a programmable controller  
15 configured to control operation of the lens curing unit as a function of the eyeglass lens prescription.

1066. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, and wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating  
20 light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1067. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, and wherein the second activating light source comprises a fluorescent lamp, and wherein the second  
25 activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1068. The apparatus of claim 1049, wherein the lens curing unit comprises a first activating light source and a second activating light source, and wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

5 1069. The apparatus of claim 1049, further comprising a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to  
10 the second curing unit, and through the second curing unit.

1070. The apparatus of claim 1049, further comprising a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and  
15 wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

1071. The apparatus of claim 1049, further comprising a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and  
20 wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

1072. A method of preparing an eyeglass lens, comprising:

placing a lens forming composition in a mold cavity of a mold assembly;

placing the mold assembly in a lens curing unit;

applying light and heat to the mold assembly with the lens curing unit to at least partially cure the lens forming composition;

monitoring usage of the lens curing unit;

5 turning off components of the lens curing unit when the lens curing unit is not used for a predetermined amount of time.

1073. The method of claim 1072, further comprising placing the mold assembly in a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, the indentation complementary to the shape of the mold assembly.

10 1074. The method of claim 1072, further comprising placing the mold assembly in a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, the indentation complementary to the shape of the mold assembly, and wherein the indentations of the mold assembly holder defines an opening, and wherein the opening is positioned such that activating light passes  
15 through the opening and onto the mold assembly during use.

1075. The method of claim 1072, further comprising placing the mold assembly in a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, the indentation complementary to the shape of the mold assembly, and wherein the mold assembly holder further comprises an  
20 additional indentation for holding an additional mold assembly, wherein the additional indentation has a shape that is complementary with the additional mold assembly.

1076. The method of claim 1072, further comprising placing the mold assembly in a mold assembly holder, the mold assembly holder comprising a body and an  
25 indentation formed in the body, the indentation complementary to the shape of the

mold assembly, and wherein a portion of the mold assembly holder is configured to hold a job ticket.

1077. The method of claim 1072, further comprising placing the mold assembly in a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, the indentation complementary to the shape of the mold assembly, and wherein the indentation in the mold assembly holder extends into the body to a depth such that an upper surface of the mold assembly is positioned at or below the upper surface of the body.

1078. The method of claim 1072, applying light and heat to mold assembly comprises directing activating light toward at least one of the mold members for less than 100 seconds.

1079. The method of claim 1072, further comprising demolding the cured lens forming composition from the mold assembly; and applying heat to the lens in the absence of activating light, subsequent to directing activating light and heat toward at least one of the mold members.

1080. The method of claim 1072, further comprising heating the lens forming composition; and placing the heated lens forming composition in a mold cavity.

1081. A method of preparing an eyeglass lens, comprising:

placing a lens forming composition in a mold cavity of a mold assembly; placing the mold assembly in a lens curing unit; monitoring the status of the lens curing unit with a controller;



5 sending a control signal from the controller to the lens curing system when the status of the lens curing unit indicates that the lens curing unit is ready for use, wherein the lens curing unit is configured to apply light and heat to the mold assembly to at least partially cure the lens forming composition in response to the control signal.

1082. The method of claim 1081, further comprising placing the mold assembly in a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, the indentation complementary to the shape of the mold assembly.

10 1083. The method of claim 1081, further comprising placing the mold assembly in a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, the indentation complementary to the shape of the mold assembly, and wherein the indentations of the mold assembly holder defines an opening, and wherein the opening is positioned such that activating light passes  
15 through the opening and onto the mold assembly during use.

1084. The method of claim 1081, further comprising placing the mold assembly in a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, the indentation complementary to the shape of the mold assembly, and wherein the mold assembly holder further comprises an  
20 additional indentation for holding an additional mold assembly, wherein the additional indentation has a shape that is complementary with the additional mold assembly.

1085. The method of claim 1081, further comprising placing the mold assembly in a mold assembly holder, the mold assembly holder comprising a body and an  
25 indentation formed in the body, the indentation complementary to the shape of the mold assembly, and wherein a portion of the mold assembly holder is configured to hold a job ticket.

1086. The method of claim 1081, further comprising placing the mold assembly in a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, the indentation complementary to the shape of the mold assembly, and wherein the indentation in the mold assembly holder extends into the body to a depth such that an upper surface of the mold assembly is positioned at or below the upper surface of the body.

1087. The method of claim 1081, applying light and heat to mold assembly comprises directing activating light toward at least one of the mold members for less than 100 seconds.

1088. The method of claim 1081, further comprising demolding the cured lens forming composition from the mold assembly; and applying heat to the lens in the absence of activating light, subsequent to directing activating light and heat toward at least one of the mold members.

1089. The method of claim 1081, further comprising heating the lens forming composition prior to placing the lens forming composition in the mold assembly.

1090. An apparatus for preparing an eyeglass lens, comprising:  
a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;  
a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use, and wherein the heat system is configured to heat the interior of the second lens curing unit;

a computer system coupled to the first curing unit and the second curing unit,  
wherein the computer system is configured to turn on components of the first and  
second curing units in response to a predetermined signal.

1091. The apparatus of claim 1090, wherein the predetermined signal comprises a time,  
5 and wherein the computer system is configured to turn on the components of the first  
and second lens curing units at a predetermined time.

1092. The apparatus of claim 1090, wherein the computer system is further configured  
to accept prescription information, and wherein the predetermined signal comprises  
an entry of prescription information into the computer system.

10 1093. The apparatus of claim 1090, wherein the computer system is further configured  
to accept user inputs, and wherein the predetermined signal comprises a user input to  
turn on the curing unit.

1094. The apparatus of claim 1090, wherein the mold assembly resides on a mold  
assembly holder, the mold assembly holder comprising a body and an indentation  
15 formed in the body, wherein the indentation is complementary to the shape of the  
mold assembly.

1095. The apparatus of claim 1090, wherein the first activating light source is an  
ultraviolet light source.

1096. The apparatus of claim 1090, wherein the second activating light source is an  
20 ultraviolet light.

1097. The apparatus of claim 1090, wherein the first and second activating light sources  
are ultraviolet lights.

1098. The apparatus of claim 1090, wherein the first and second activating light sources  
have substantially the same spectral output.

1099. The apparatus of claim 1090, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.

1100. The apparatus of claim 1090, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps  
5 are positioned on opposite sides of the first curing unit.

1101. The apparatus of claim 1090, further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

1102. The apparatus of claim 1090, further comprising a filter disposed directly adjacent  
10 to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1103. The apparatus of claim 1090, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and  
15 further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1104. The apparatus of claim 1090, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air  
20 within the second curing unit during use.

1105. The apparatus of claim 1090, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

1106. The apparatus of claim 1090, further comprising an anneal unit, the anneal unit  
25 comprising an anneal unit heating system, wherein the anneal unit heating system is

configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

5 1107. The apparatus of claim 1090, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

10 1108. The apparatus of claim 1090, further comprising a programmable controller configured to substantially simultaneously control operation of the first curing unit and the second curing unit during use.

1109. The apparatus of claim 1090, further comprising a programmable controller configured to control operation of the first curing unit as a function of the eyeglass lens prescription.

15 1110. The apparatus of claim 1090, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

20 1111. The apparatus of claim 1090, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1112. The apparatus of claim 1090, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

25 1113. The apparatus of claim 1090, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises a continuous flexible

member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

5 1114. The apparatus of claim 1090, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

10 1115. The apparatus of claim 1090, further comprising a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit, and wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

15 1116. A system for dispensing a heated polymerizable lens forming composition comprising:

a lens forming composition heating unit comprising:

20

a body, the body being configured to hold the lens forming composition, the body comprising an opening for receiving a fluid container and an outlet;

25

a heating system positioned within the body for heating the lens forming composition; and

5 a valve positioned proximate the outlet, wherein the valve comprises an elongated member, wherein the elongated member is positionable within the outlet in a closed position, wherein the elongated member in the closed position inhibits flow of the lens forming composition through the outlet, and wherein the elongated member is positionable within the outlet in an open position, wherein the elongated member in an open position allows flow of the lens forming composition flows through the outlet during use; and

10 a controller coupled to the lens forming composition heating unit, wherein the controller is configured to monitor the amount of lens forming composition used, and wherein the controller is configured to produce a signal indicating that additional lens forming composition is needed when a predetermined amount of monomer is used.

1117. The system of claim 1116, wherein the valve comprises a movable member  
15 coupled to the elongated member, wherein the elongated member contacts the movable member at a first position such that the elongated member is in the closed position, and wherein the elongated member contacts the movable member at a second position such that the elongated member is in the open position, and wherein the movable member is movable such that the position elongated member can be  
20 varied from the first position to the second position.

1118. The system of claim 1116, wherein the heating apparatus body further comprises a chamber positioned within the heating apparatus body, and wherein the heating system is positioned within the chamber, and wherein the chamber inhibits the lens forming composition from contacting the heating system.

25 1119. The system of claim 1116, wherein the heating system comprises a resistive heating system.

1120. The system of claim 1116, wherein the elongated member extends substantially completely through the outlet when the elongated member is in the closed position.

1121. The system of claim 1116, wherein the elongated member extends partially into the outlet when the elongated member is an open position.

5 1122. The system of claim 1116, wherein the heating apparatus further comprises a thermostat coupled to the heating apparatus body, the thermostat being configured to measure a temperature of the lens forming composition within the heating apparatus body, and wherein the thermostat is further configured to control the heating system in response to the measured temperature.

10 1123. The system of claim 1116, wherein the heating apparatus further comprising a thermocouple coupled to the heating apparatus body, the thermocouple being configured to measure a temperature of the lens forming composition, and wherein the system further comprises a controller coupled to the thermocouple and the heating system, the controller configured to control the heating system in response to the  
15 temperature measured by the thermocouple.

1124. The system of claim 1116, wherein the heating apparatus further comprises a fluid level monitor disposed within the heating apparatus body, wherein the fluid level monitor is configured to measure the level of the lens forming composition disposed within the heating apparatus body.

20 1125. The system of claim 1116, wherein the heating apparatus further comprises a fluid level monitor disposed within the heating apparatus body and a controller coupled to the fluid level monitor and the heating system, wherein the fluid level monitor is configured to measure the level of the lens forming composition disposed within the heating apparatus body, and wherein the controller configured to control the heating  
25 system in response to the level of fluid measured by the fluid level monitor.



1126. The system of claim 1116, wherein the heating apparatus is electrically coupleable to a controller of a lens forming apparatus.

1127. The system of claim 1116, wherein the heating apparatus further comprises a mold assembly holder coupled to the heating apparatus body, wherein the mold assembly holder is configured to hold a mold assembly in a position such that the outlet of the heating apparatus body is positioned proximate an inlet of the mold assembly.

1128. The system of claim 1116, wherein the fluid control member is substantially spherical.

1129. The system of claim 1116, wherein the fluid control member is substantially spherical, and wherein the elastic member is a spring.

1130. The system of claim 1116, further comprising a fluid container configured to hold a lens forming composition, the fluid container comprising:

a fluid container body and a cap, wherein the cap comprises a fluid control member and an elastic member, wherein the elastic member is coupled to the fluid control member such that the elastic member exerts a force on the fluid control member such that the fluid control member is forced against a top inner surface of the cap;

wherein the fluid container is insertable into the opening of the heating apparatus, and wherein insertion of the fluid container into the opening causes the fluid control member to be moved to a position such that the lens forming composition flows from the fluid container into the heating apparatus body.

1131. The system of claim 1130, wherein the heating apparatus body further comprises a projection extending toward the opening, and wherein the projection is positioned

such that the projection forces the fluid control member away from the top inner surface of the cap when the bottle is inserted into the opening.

1132. The system of claim 1130, wherein the cap of the fluid container is removable from the fluid container body.

5 1133. The system of claim 1130, wherein the cap of the fluid container is coupled to the fluid container body with an adhesive.

1134. A computer-implemented method for controlling an eyeglass lens forming apparatus, the eyeglass lens forming apparatus comprising:

10 a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;

15 a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to heat the interior of the second lens curing unit;

20 a mold assembly holder configured to support a mold assembly, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly; and

25 a conveyor system configured to convey the mold assembly holder from the first lens curing unit into and through the second lens curing unit;

the method comprising:

monitoring the position of the mold assembly holder in the lens forming apparatus; and

5 displaying the position of the mold assembly holder within the lens forming apparatus on a display device.

1135. The method of claim 1134, wherein the lens forming apparatus comprises a sensor configured to detect the position of a mold assembly holder within the lens curing apparatus, wherein displaying the position of the mold assembly holder comprises  
10 displaying a pictorial depiction of the mold assembly holder on the display device based on the sensed position of the mold assembly holder.

1136. The method of claim 1134, wherein the lens forming apparatus comprises a sensor configured to detect the presence of a mold assembly holder in the first curing unit, and wherein displaying the position of the mold assembly holder comprises  
15 displaying a pictorial depiction of the mold assembly holder on the display device based on the time between when the mold assembly holder is sensed by the sensor and the current time.

1137. The method of claim 1134, further comprising displaying components of the lens curing apparatus, wherein the displaying the position of the mold assembly holder  
20 comprises displaying a pictorial depiction of the mold assembly holder on the display device in relation to the components of the lens curing apparatus.

1138. The method of claim 1134, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the  
25 mold assembly.

1139. The method of claim 1134, wherein the first activating light source is an ultraviolet light source.

1140. The method of claim 1134, wherein the second activating light source is an ultraviolet light.
1141. The method of claim 1134, wherein the first and second activating light sources are ultraviolet lights.
- 5 1142. The method of claim 1134, wherein the first and second activating light sources have substantially the same spectral output.
1143. The method of claim 1134, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.
1144. The method of claim 1134, wherein the first activating light source comprises a  
10 first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.
1145. The method of claim 1134, wherein the lens forming apparatus further comprises a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first  
15 activating light source.
1146. The method of claim 1134, wherein the lens forming apparatus further comprises a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
- 20 1147. The method of claim 1134, wherein the lens forming apparatus further comprises a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to

manipulate an intensity of the activating light emanating from the second activating light source.

1148. The method of claim 1134, wherein the lens forming apparatus further comprises an air distributor positioned within the second curing unit, the air distributor being  
5 configured to circulate air within the second curing unit during use.

1149. The method of claim 1134, wherein the lens forming apparatus further comprises an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

1150. The method of claim 1134, wherein the lens forming apparatus further comprises  
10 an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

1151. The method of claim 1134, wherein the lens forming apparatus further comprises  
15 an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

1152. The method of claim 1134, further comprising controlling the curing operation of  
20 the first curing unit and the second curing unit.

1153. The method of claim 1134, further comprising controlling the operation of the first curing unit as a function of the eyeglass lens prescription.

1154. The method of claim 1134, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a  
25 flasher ballast system coupled to the fluorescent lamp.

1155. The method of claim 1134, wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.
1156. The method of claim 1134, wherein the first activating light source comprises two  
5 or more lamps, and wherein the lamps are independently operable.
1157. The method of claim 1134, wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through  
10 the second curing unit.
1158. The method of claim 1134, wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.
- 15 1159. The method of claim 1134, wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.
1160. A computer-implemented method for displaying the status of an eyeglass lens  
20 forming apparatus, the eyeglass lens forming apparatus comprising a curing unit configured to apply light and heat to a mold assembly; the method comprising:
- monitoring the status of the components of the curing unit; and
- 25 displaying the status of the components of the curing unit on a display device.

1161. The method of claim 1160, wherein displaying the status of the components of the curing unit comprises displaying a picture representative of the component, and wherein the picture of the component is colored to indicate the status of the component.
- 5 1162. The method of claim 1160, wherein displaying the status of the components of the curing unit comprises displaying a table with a listing of the components, and wherein the table the table includes an indication of the status of the component.
1163. The method of claim 1160, wherein the component comprises a heating system of the curing unit.
- 10 1164. The method of claim 1160, wherein the component comprises an activating light system of the curing unit.
1165. A computer-implemented method for collecting prescription information for an eyeglass lens forming apparatus, the eyeglass lens forming apparatus comprising a curing unit configured to apply light and heat to a mold assembly; the method
- 15 comprising:
- displaying menu items that are configured to collect prescription information from a user; and
- 20 saving the collected prescription information as a job in a database.
1166. The method of claim 1165, wherein displaying menu items comprises displaying a menu item requesting the lens type.
1167. The method of claim 1165, wherein displaying menu items comprises displaying a
- 25 menu item requesting the monomer type.

1168. The method of claim 1165, wherein displaying menu items comprises displaying a menu item requesting the lens position.
1169. The method of claim 1165, wherein displaying menu items comprises displaying a menu item requesting the tinting of the eyeglass lens.
- 5 1170. The method of claim 1165, wherein the eyeglass lens comprises a spheric single vision lens or an aspheric single vision lens, and wherein displaying menu items comprises displaying menu items requesting the sphere and cylinder of the eyeglass lens.
- 10 1171. The method of claim 1165, wherein the eyeglass lens comprises a flattop bifocal lens or an asymmetrical progressive lens, and wherein displaying menu items comprises displaying menu items requesting the sphere, cylinder, axis, and add power of the eyeglass lens.
1172. The method of claim 1165, further comprising verifying that information has been entered in the menu items.
- 15 1173. The method of claim 1165, further comprising verifying that information has been entered in the menu items, and waiting until all the information is entered before saving the prescription information.
1174. The method of claim 1165, further comprising verifying that information has been entered in the menu items, and verifying that the entered information represents a lens  
20 that can be formed by the curing unit.
1175. The method of claim 1165, further comprising generating a job ticket the job ticket comprising the prescription information.
1176. A computer-implemented method for controlling formation of an eyeglass lens, the method comprising:



receiving prescription information, wherein the prescription information defines an eyeglass prescription;

5            verifying that the eyeglass prescription can be formed in a lens curing apparatus;

             displaying a warning message if the eyeglass prescription can not be formed in the lens curing apparatus; and

10           determining a front mold identification marking, a back mold identification marking, and a gasket identification marking of an appropriate front mold, back mold and gasket for producing the eyeglass lens in response to the prescription information, if the eyeglass  
15           prescription can be formed in the lens curing apparatus;

             wherein the front mold, the back mold and the gasket together are operable to produce a mold cavity, the mold cavity being configured to hold a lens forming  
20           composition which is curable to produce the eyeglass lens from the prescription, the front mold member comprising the front mold identification marking, the back mold member comprising the back mold identification marking, and the gasket member comprising the gasket identification marking.

25        1177. The method of claim 1176, further comprising forming a job ticket with prescription information, wherein the prescription information is entered into a job ticket printing device from an input device, wherein the input device is operable by a user to enter prescription information.

1178. The method of claim 1176, wherein the prescription information comprises a sphere power, a cylinder power, and a lens location.
1179. The method of claim 1176, wherein the prescription information further comprises a monomer type and a lens type.
- 5 1180. The method of claim 1176, wherein the prescription information comprises a sphere power, a cylinder power, an add power and a lens location.
1181. The method of claim 1176, wherein the eyeglass lens comprises a spheric single vision lens or an aspheric single vision lens, and wherein the prescription information comprises the sphere and cylinder of the eyeglass lens.
- 10 1182. The method of claim 1176, wherein the eyeglass lens comprises a flattop bifocal lens or an asymmetrical progressive lens, and wherein the prescription information comprises the sphere, cylinder, axis, and add power of the eyeglass lens.
1183. An apparatus for preparing an eyeglass lens, comprising:
- 15 a first lens curing unit comprising a first activating light source, wherein the first lens curing unit is configured to produce activating light directed toward a mold assembly during use;
- a second lens curing unit comprising a second activating light source and heating system, wherein the activating light source is configured to direct activating light toward a mold assembly during use; and wherein the heat system is configured to
- 20 heat the interior of the second lens curing unit;
- a conveyor system configured to convey the mold assembly from the first lens curing unit into and through the second lens curing unit;

a controller coupled to the heating system of the second curing unit and the conveyor system, the controller being configured to control the operation of the heating system and the conveyor system during use.

5 1184. The apparatus of claim 1183, wherein the mold assembly resides on a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

1185. The apparatus of claim 1183, wherein the first activating light source is an ultraviolet light source.

10 1186. The apparatus of claim 1183, wherein the second activating light source is an ultraviolet light.

1187. The apparatus of claim 1183, wherein the first and second activating light sources are ultraviolet lights.

15 1188. The apparatus of claim 1183, wherein the first and second activating light sources have substantially the same spectral output.

1189. The apparatus of claim 1183, wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.

20 1190. The apparatus of claim 1183, wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the first curing unit.

1191. The apparatus of claim 1183, further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

1192. The apparatus of claim 1183, further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1193. The apparatus of claim 1183, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1194. The apparatus of claim 1183, further comprising an air distributor positioned within the second curing unit, the air distributor being configured to circulate air within the second curing unit during use.

1195. The apparatus of claim 1183, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

1196. The apparatus of claim 1183, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

1197. The apparatus of claim 1183, further comprising an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

1198. The apparatus of claim 1183, wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1199. The apparatus of claim 1183, wherein the second activating light source  
5 comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1200. The apparatus of claim 1183, wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.

1201. The apparatus of claim 1183, wherein the conveyor system comprises a  
10 continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

1202. The apparatus of claim 1183, wherein the conveyor system comprises two discrete  
15 conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

1203. The apparatus of claim 1183, wherein the conveyor system comprises a flexible  
20 member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

1204. A system for preparing a eyeglass lens, comprising:

a mold assembly, the mold assembly comprising a first and second mold member,  
wherein the first and second mold members at least partially define a mold cavity;

25

a lens curing apparatus configured to direct activating light toward the mold assembly during use, wherein the lens curing unit is configured to produce greater than about 25 eyeglass lenses per hour;

- 5 a mold filling apparatus, wherein the mold filling apparatus is configured to dispense a lens forming composition into the mold cavity of the mold assembly during use; and

a controller computer, wherein the controller computer comprises controller software executable on the controller computer, wherein the controller software is operable to:

receive an eyeglass prescription;

- 15 identify the first and second mold members that will produce an eyeglass lens having the eyeglass prescription; and

determine curing conditions;

20 wherein the lens curing apparatus, the mold filling apparatus, and the controller computer are located proximate to each other.

1205. The system of claim 1204, further comprising a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

- 25 1206. The system of claim 1204, wherein the lens curing apparatus comprises a first activating light source, wherein the first activating light source is an ultraviolet light source.

1207. The system of claim 1204, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, wherein the second activating light source is an ultraviolet light.

5 1208. The system of claim 1204, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources are ultraviolet lights.

1209. The system of claim 1204, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources have substantially the same spectral output.

10 1210. The system of claim 1204, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.

1211. The system of claim 1204, wherein the lens curing apparatus comprises a first  
15 activating light source and a second activating light source, and wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the lens curing unit.

1212. The system of claim 1204, wherein the lens curing apparatus comprises a first  
20 activating light source and a second activating light source, and further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

1213. The system of claim 1204, wherein the lens curing apparatus comprises a first  
25 activating light source and a second activating light source, and further comprising a filter disposed directly adjacent to the second activating light source, the filter being

configured to manipulate an intensity of the activating light emanating from the second activating light source.

1214. The system of claim 1204, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1215. The system of claim 1204, wherein the lens curing apparatus further comprises an air distributor positioned within the lens curing unit, the air distributor being configured to circulate air within the lens curing unit during use.

1216. The system of claim 1204, wherein the lens curing apparatus further comprises an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

1217. The system of claim 1204, wherein the lens curing apparatus further comprises an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

1218. The system of claim 1204, wherein the lens curing apparatus further comprises an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.



1219. The system of claim 1204, wherein the lens curing apparatus further comprises a programmable controller configured to substantially simultaneously control operation of the lens curing unit during use.
1220. The system of claim 1204, wherein the lens curing apparatus further comprises a  
5 programmable controller configured to control operation of the lens curing unit as a function of the eyeglass lens prescription.
1221. The system of claim 1204, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating  
10 light source further comprises a flasher ballast system coupled to the fluorescent lamp.
1222. The system of claim 1204, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the second activating light source comprises a fluorescent lamp, and wherein the second  
15 activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.
1223. The system of claim 1204, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first activating light source comprises two or more lamps, and wherein the lamps are  
20 independently operable.
1224. The system of claim 1204, wherein the lens curing apparatus further comprises a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the  
25 flexible member is configured to interact with a mold assembly to convey the mold

assembly through the first curing unit, to the second curing unit, and through the second curing unit.

1225. The system of claim 1204, wherein the lens curing apparatus further comprises a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

1226. The system of claim 1204, wherein the lens curing apparatus further comprises a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

1227. The system of claim 1204, further comprising a coating apparatus for applying a coating to at least one of the mold members or the eyeglass lens during use.

1228. A system for preparing a eyeglass lens, comprising:

a mold assembly, the mold assembly comprising a first and second mold member, wherein the first and second mold members at least partially define a mold cavity;

a lens curing apparatus configured to direct activating light toward the mold assembly during use;

a mold filling apparatus, wherein the mold filling apparatus is configured to dispense a lens forming composition into the mold cavity of the mold assembly during use, the mold filling apparatus comprising:

a heating apparatus body, the heating apparatus body being configured to hold the lens forming composition, the heating apparatus body comprising an opening for receiving a fluid container and an outlet

5 a heating system positioned within the heating apparatus body for heating the lens forming composition; and

10 a valve positioned proximate the outlet, wherein the valve comprises an elongated member, wherein the elongated member is positionable within the outlet in a closed position, wherein the elongated member in the closed position inhibits flow of the lens forming composition through the outlet, and wherein the elongated member is positionable within the outlet in an open position, wherein the elongated member in an open position allows flow of the lens forming composition flows through the outlet during use;

15 a controller computer, wherein the controller computer comprises controller software executable on the controller computer, wherein the controller software is operable to:

20 receive an eyeglass prescription;  
identify the first and second mold members that will produce an eyeglass lens having the eyeglass prescription; and  
determine curing conditions;

25 wherein the coating apparatus, the lens curing apparatus, the mold filling apparatus, and the controller computer are located proximate to each other.

1229. The system of claim 1228, further comprising a mold assembly holder, the mold assembly holder comprising a body and an indentation formed in the body, wherein the indentation is complementary to the shape of the mold assembly.

5 1230. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source, wherein the first activating light source is an ultraviolet light source.

1231. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, wherein the second activating light source is an ultraviolet light.

10 1232. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources are ultraviolet lights.

15 1233. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources have substantially the same spectral output.

1234. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.

20 1235. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the lens curing unit.

1236. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

1237. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1238. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1239. The system of claim 1228, wherein the lens curing apparatus further comprises an air distributor positioned within the lens curing unit, the air distributor being configured to circulate air within the lens curing unit during use.

1240. The system of claim 1228, wherein the lens curing apparatus further comprises an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.

1241. The system of claim 1228, wherein the lens curing apparatus further comprises an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and

wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.

1242. The system of claim 1228, wherein the lens curing apparatus further comprises an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

1243. The system of claim 1228, wherein the lens curing apparatus further comprises a programmable controller configured to substantially simultaneously control operation of the lens curing unit during use.

1244. The system of claim 1228, wherein the lens curing apparatus further comprises a programmable controller configured to control operation of the lens curing unit as a function of the eyeglass lens prescription.

1245. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1246. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.

1247. The system of claim 1228, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first

activating light source comprises two or more lamps, and wherein the lamps are independently operable.

1248. The system of claim 1228, wherein the lens curing apparatus further comprises a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises a continuous flexible member  
5 extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold assembly through the first curing unit, to the second curing unit, and through the second curing unit.

1249. The system of claim 1228, wherein the lens curing apparatus further comprises a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the  
15 mold assemblies through the second curing unit.

1250. The system of claim 1228, wherein the lens curing apparatus further comprises a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor  
20 configured to move the flexible member through the conveyor system.

1251. The system of claim 1228, further comprising a coating apparatus for applying a coating to at least one of the mold members or the eyeglass lens during use.

1252. A system for preparing a eyeglass lens, comprising:

a controller computer, wherein the controller computer comprises controller  
25 software executable on the controller computer, wherein the controller software is operable to:

receive an eyeglass prescription;  
identify the first and second mold members that will produce an  
eyeglass lens having the eyeglass prescription;  
determine curing conditions;

5

a job ticket printing device, wherein the job ticket printing device is coupled to the  
controller computer, and wherein the job ticket printing device is configured to  
receive prescription information from the controller computer and print a job  
ticket having the prescription information;

10

a lens curing apparatus configured to direct activating light toward the mold  
assembly during use, wherein the lens curing unit comprising a controller  
computer and a reader, the reader being configured to read information from a job  
ticket and transfer the information to the controller computer, wherein the  
15 controller computer is configured to determine curing conditions for producing  
the eyeglass prescription and control the lens curing system to produce the curing  
conditions.

20

1253. The system of claim 1252, further comprising a mold assembly holder, the mold  
assembly holder comprising a body and an indentation formed in the body, wherein  
the indentation is complementary to the shape of the mold assembly.

1254. The system of claim 1252, wherein the lens curing apparatus comprises a first  
activating light source, wherein the first activating light source is an ultraviolet light  
source.

25

1255. The system of claim 1252, wherein the lens curing apparatus comprises a first  
activating light source and a second activating light source, wherein the second  
activating light source is an ultraviolet light.



1256. The system of claim 1252, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources are ultraviolet lights.

5 1257. The system of claim 1252, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources have substantially the same spectral output.

1258. The system of claim 1252, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first and second activating light sources have a peak light intensity at a range of about 385 nm to about 490 nm.

1259. The system of claim 1252, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first activating light source comprises a first set of lamps and a second set of lamps, wherein the first and second set of lamps are positioned on opposite sides of the lens curing unit.

1260. The system of claim 1252, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and further comprising a filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source.

1261. The system of claim 1252, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and further comprising a filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.

1262. The system of claim 1252, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, further comprising a first filter disposed directly adjacent to the first activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the first activating light source, and further comprising a second filter disposed directly adjacent to the second activating light source, the filter being configured to manipulate an intensity of the activating light emanating from the second activating light source.
1263. The system of claim 1252, wherein the lens curing apparatus further comprises an air distributor positioned within the lens curing unit, the air distributor being configured to circulate air within the lens curing unit during use.
1264. The system of claim 1252, wherein the lens curing apparatus further comprises an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit.
1265. The system of claim 1252, wherein the lens curing apparatus further comprises an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit heating system is configured to heat the interior of the anneal unit to a temperature of up to about 250 °F.
1266. The system of claim 1252, wherein the lens curing apparatus further comprises an anneal unit, the anneal unit comprising an anneal unit heating system, wherein the anneal unit heating system is configured to heat the interior of the anneal unit, and wherein the anneal unit further comprises an anneal unit conveyor system configured to convey the mold assembly through the anneal unit.

1267. The system of claim 1252, wherein the lens curing apparatus further comprises a programmable controller configured to substantially simultaneously control operation of the lens curing unit during use.
1268. The system of claim 1252, wherein the lens curing apparatus further comprises a programmable controller configured to control operation of the lens curing unit as a function of the eyeglass lens prescription.
1269. The system of claim 1252, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first activating light source comprises a fluorescent lamp, and wherein the first activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.
1270. The system of claim 1252, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the second activating light source comprises a fluorescent lamp, and wherein the second activating light source further comprises a flasher ballast system coupled to the fluorescent lamp.
1271. The system of claim 1252, wherein the lens curing apparatus comprises a first activating light source and a second activating light source, and wherein the first activating light source comprises two or more lamps, and wherein the lamps are independently operable.
1272. The system of claim 1252, wherein the lens curing apparatus further comprises a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises a continuous flexible member extending from the first curing unit through the second curing unit, wherein the flexible member is configured to interact with a mold assembly to convey the mold

assembly through the first curing unit, to the second curing unit, and through the second curing unit.

1273. The system of claim 1252, wherein the lens curing apparatus further comprises a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises two discrete conveyors, wherein the first conveyor is configured to convey the mold assembly from the first curing unit to the second curing unit, and wherein the second conveyor is configured to convey the mold assemblies through the second curing unit.

1274. The system of claim 1252, wherein the lens curing apparatus further comprises a conveyor system configured to convey the mold assembly through the lens curing unit, and wherein the conveyor system comprises a flexible member configured to interact with a mold assembly, and wherein the flexible member is coupled to a motor configured to move the flexible member through the conveyor system.

1275. The system of claim 1252, further comprising a coating apparatus for applying a coating to at least one of the mold members or the eyeglass lens during use.

1276. A mold filling apparatus comprising:

a body;

at least two chambers disposed in the body, the chambers being configured to hold the lens forming composition, the chambers comprising an opening for receiving a fluid container and an outlet;

a heating system positioned within each of the chambers for heating the lens forming composition; and

a valve positioned proximate the outlet of each of the chambers, wherein the valve comprises an elongated member, wherein the elongated member is positionable within the outlet in a closed position, wherein the elongated member in the closed position inhibits flow of the lens forming composition through the outlet, and wherein the elongated member is positionable within the outlet in an open position, wherein the elongated member in an open position allows flow of the lens forming composition flows through the outlet during use.

1277. The system of claim 1276, wherein the valve comprises a movable member coupled to the elongated member, wherein the elongated member contacts the movable member at a first position such that the elongated member is in the closed position, and wherein the elongated member contacts the movable member at a second position such that the elongated member is in the open position, and wherein the movable member is movable such that the position elongated member can be varied from the first position to the second position.

1278. The system of claim 1276, wherein the chamber inhibits the lens forming composition from contacting the heating system.

1279. The system of claim 1276, wherein the heating system comprises a resistive heating system.

1280. The system of claim 1276, wherein the elongated member extends substantially completely through the outlet when the elongated member is in the closed position.

1281. The system of claim 1276, wherein the elongated member extends partially into the outlet when the elongated member is an open position.

1282. The system of claim 1276, wherein the heating apparatus further comprises a thermostat coupled to the chambers, the thermostat being configured to measure a temperature of the lens forming composition within the chamber, and wherein the

thermostat is further configured to control the heating system in response to the measured temperature.

1283. The system of claim 1276, wherein the heating apparatus further comprises a thermocouple coupled to the chamber, the thermocouple being configured to measure a temperature of the lens forming composition, and wherein the system further comprises a controller coupled to the thermocouple and the heating system, the controller configured to control the heating system in response to the temperature measured by the thermocouple.

1284. The system of claim 1276, wherein the heating apparatus further comprises a fluid level monitor disposed within the chamber, wherein the fluid level monitor is configured to measure the level of the lens forming composition disposed within the chamber.

1285. The system of claim 1276, wherein the heating apparatus further comprises a fluid level monitor disposed within the chamber and a controller coupled to the fluid level monitor and the heating system, wherein the fluid level monitor is configured to measure the level of the lens forming composition disposed within the chamber, and wherein the controller is configured to control the heating system in response to the level of fluid measured by the fluid level monitor.

1286. The system of claim 1276, wherein the heating apparatus is electrically coupleable to a controller of a lens forming apparatus.

1287. The system of claim 1276, wherein the heating apparatus further comprises a mold assembly holder coupled to the heating apparatus body, wherein the mold assembly holder is configured to hold a mold assembly in a position such that the outlet of the heating apparatus body is positioned proximate an inlet of the mold assembly.